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## Women's occupational health and safety in the informal economy: Maternal market traders in Accra, Ghana

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WOMEN'S OCCUPATIONAL HEALTH AND SAFETY IN THE INFORMAL  
ECONOMY: MATERNAL MARKET TRADERS IN ACCRA, GHANA

An Abstract of a Thesis  
Submitted  
in Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

Joyceline Amoako  
University of Northern Iowa  
May, 2019

## ABSTRACT

Improving maternal health and women's health is necessary, especially in countries with high maternal and child mortality rates. Most research on maternal health focuses on women's reproductive health and, as a result, very little is known about the impact of occupation on maternal health (World Health Organization, 2006). It is also interesting to know that "Occupational Health Research" has been heavily criticized for the general absence of a gender standpoint, usually resulting in the exclusion of women and their concerns at the workplace (World Health Organization, 2006). In Ghana, an open-air market is an integral place of work for women. The economic contributions of market women are what drives the consumer economy of Ghana. And yet, work conditions for market women are poor and appalling. A majority of markets are situated within (or near) slums and so these markets exhibit similar environmental characteristics as slums. The unhealthy market conditions threaten the health and wellbeing of the market women. This research investigates the occupational health challenges of maternal market traders in Accra. Using face-to-face interviews and participant observation, twenty four maternal market traders (participants) were interviewed about their occupational health challenges. First, the participants identified existing work hazards and further discussed how those hazards affected their health and wellbeing. Findings suggest that maternal market traders face some occupational health risks that have a significant toll on their physical, mental and social health. Therefore, there is a need for the implementation of immediate safety measures.

*Keywords:* Formal Economy, Health, Informal Economy, Maternal Health, Market Traders, Market Production, Occupational Health, Open-Air Market, and Psychosocial Health.

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Entitled: WOMEN’S OCCUPATIONAL HEALTH AND SAFETY IN THE  
INFORMAL ECONOMY: MATERNAL MARKET TRADERS IN ACCRA, GHANA

Has been approved as meeting the thesis requirement for the degree of  
Master of Arts

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## DEDICATION

I dedicate this to all market traders in Ghana. I believe in your hard work and great contributions to the consumer economy of Ghana. Your perseverance, even in unfavorable working conditions has developed in me so much strength and resilience.

Thank you.



## ACKNOWLEDGEMENTS

All praise and adoration be to my Savior and Lord Jesus Christ for giving me life, good health, and courage throughout these years.

I would also like to thank my department—Women’s and Gender Studies Program—for believing in me and supporting my dream to help improve the lives of underprivileged women around the globe.

My committee members have offered me exceptional support and guidance throughout the process of writing my Master’s thesis. Many thanks to them too.

Lastly, I would like to thank my family, friends and academic cohorts for their endless love and care. This thesis is truly an inspiration from above and I strongly believe that it will go a long way to impact lives and situations positively.

LONG LIVE UNI, LONG LIVE PANTHERS!!

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## CHAPTER 1

### INTRODUCTION

Improving women's health is a critical global health concern. This owes to the fact that the health of women is closely linked to some biological and social factors that make being born female detrimental to one's health (Skolnik, 2016). The most common biological risk women face is iron deficiency anemia due to menstruation. Also, apart from the point that women's health directly affects the lives of the children they bear, there are some biological processes such as pregnancy and childbirth that are not in themselves diseases but have negative health impacts on the lives of women (World Health Organization, 2009b, Skolnik, 2016). For example, during pregnancy, some conditions like hypertensive disorders and eclampsia can cause women to become ill or to die. Additionally, women can be left with some permanent disabilities including uterine prolapse and obstetric fistula due to pregnancy (Skolnik, 2016).

Further, women are more susceptible to genital ulcerative diseases (GUDs) and sexually transmitted infections (STIs) than men due to "hormonal changes, vaginal microbial ecology and physiology" (Quinn & Overbaugh, 2005). Lastly, research on the global burden of disease from 1990 projected to 2020 established that women suffer a greater portion of the total burden of diseases. Diseases such as Alzheimer's disease, osteoarthritis and cardiovascular diseases that occur mostly in women are related to the fact that females live longer than males.

Social factors also impact women's health. In many societies women's inferior status leads to several health and economic problems that men do not face. For instance,

the issue of male preference in countries such as India and China leads to the selective abortion of female fetuses which creates unique health and socioeconomic problems for women by virtue of their sex and position in society. In India, between 300,000 and 600,000 female fetuses are aborted annually due to the fact that male children are valued over female children (Jha et al., 2011). In addition, women encounter bigger problems in getting the desirable health care for health challenges that affect both them and men (more or less equally) as a result of the gender-based inequalities they face.

In many countries, certain behaviors and social norms propagate the suppression of females and overlook violence against them which leads to little access to health resources for females, both within families and the society (World Health Organization, 2009b). Lastly, the roles that women play in different cultures also pose dangers to their health. For example, in low and middle income countries such as Ghana, women cook indoors and on open fires without adequate ventilation. This situation causes respiratory problems for these women and their families. Having discussed some of the biological and social processes that affect women's health, it is evident why women's health issues have been and should be given much prominence in global health.

So far, several measures have been put in place both globally and locally to help promote women's health. As part of the 2015 United Nations' Millennium Development Goals to improve women's health, the ten top issues for women's health (cancer, reproductive health, maternal health, HIV, sexually transmitted infections, violence against women, mental health, non-communicable diseases, being young and getting older) have gained considerable recognition yielding to better healthcare support and

policies for women worldwide. Also, medical and technological developments have prolonged the lives of both women and men and are currently anticipated to live to an average of 72 and 68 years respectively (United Nations Department of Economic and Social Affairs, 2015). However, the female lead in life expectancy may possibly be a relatively recent phenomenon because although precise historical data is difficult to find, there is evidence that in 17th century England and Wales the life expectancy of men exceeded that of women (Govender & Penn-Kekana, 2007). On the social aspect, increasing attention is also being paid to the social determinants of women's health. From 2005 to 2008, the World Health Organization created a commission on the social determinants of health to deal with some dangers of women's health (World Health Organization, 2006).

Unfortunately, these substantial achievements in women's health have still not been realized in some countries due to health disparities. In Ghana, the life expectancy of women is still eight years below the world average. Women in Ghana also live a higher proportion of their lives in poor health than those in developed countries (World Health Organization, 2008). A study by Hill et al. (2007) revealed that the general prevalent health conditions affecting urban Ghanaian women included poor vision, malaria, pain, poor dentition, hypertension, obesity, arthritis, chronic back pain, abnormal rectal and pelvic examinations, HIV/AIDS, and hypercholesterolemia (Hill et al., 2007). This study further concluded that women living in Ghana experience a higher burden of diseases (both communicable and non-communicable) when compared to men. Again, in spite of the huge advancement that has been made around the world to decreasing the malaria

burden, malaria remains one of the top three causes of demise for both males and females in Ghana (World Health Organization, 2015a).

Maternal mortality in Ghana is unacceptably high, with an estimated 378 deaths per 100,000 live births. It is indeed worrying to know that the issue of maternal mortality in Ghana has still not made satisfactory progress despite substantial investment in health care and maternal education worldwide (Ghana Health Service, 2004). Ghana is therefore unlikely to achieve the Millennium Development Goal for a maternal mortality rate of 185/100,000 live births (United Nations International Children's Emergency Fund, 2013).

#### Occupational Health and Safety

Health, as defined by the World Health Organization (1948), refers to a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. This definition as provided by the World Health Organization broadens the scope of health to cover social, psychological and material dimensions. However, most research and assistance provided to support women's health are directed towards their reproductive health. Hence, very little is known in detail about women's health challenges that occur within the workplace (Avotri & Walters, 1999; Wrigley-Asante, 2013). Women are not just mothers but are also workers who represent about 42% of the global paid working population (World Health Organization, 2004a). For that reason, it is important to promote their occupational health and safety.

Occupational health comprises all areas of health and safety in the workplace, with a strong emphasis on the primary prevention of hazards (World Health Organization, 2018b). In other words, occupational health and safety comprises the

safeguarding and development of the maximum level of physical, mental and social well-being of workers in all occupations. Occupational health risks are mostly directly connected to the related workload and behavior as well as the physical, chemical and biological factors in the environment. For instance, infections acquired by health-care workers from syringe/needle injuries, as well as diarrheal diseases acquired among market traders, are as a result of contact with infectious agents in the work environment and related behavior (World Health Organization, 2016). Oftentimes, occupational health issues are given less focus than occupational safety issues because the former are generally more difficult to deal with (International Labor Organization, 1996). Due to this reason, occupational health issues are rarely recognized and workers face a lot of health risks which lead to accidents and diseases (World Health Organization, 2018a).

According to the best available estimates, 374 million workers are injured and 2.28 million die each year in occupational accidents and 68-157 million new cases of occupational diseases are attributed to either hazardous exposures or workloads. The largest share of work-related mortality was from work-related diseases which accounted for 2.4 million (86.3%) of the total estimated deaths. Fatal accidents accounted for the remaining 13.7%. Asia was the highest contributor and constituted about two-thirds of the global work related mortality, followed by Africa at 11.8% and Europe at 11.7% (Hämäläinen, Takala, & Kiat, 2017). Such significant numbers of severe health outcomes contribute to one of the most critical impacts on the health of the world's population.

In terms of which group or sector of workers experiences the most occupational health risks, the Swedish International Development Cooperation Agency in 2004,



revealed that all enterprises in both the informal and formal economy face similar occupational health and safety challenges but those working in the informal enterprises are much more vulnerable in experiencing the challenges. This is due to the poor infrastructure, lack of working policies and premises, and poorly developed physical markets that characterize the informal economy. Ensuring the occupational health of all sector of workers is vital because “when health is addressed, so is safety, because a healthy workplace is by definition also a safe workplace. The converse, though, may not be true because a so-called safe workplace is not necessarily also a healthy workplace” (Occupational Health & Safety Authority of Malta, 2007, p.15). The significant factor is that both health and safety issues should be addressed in the workplace because it is likely for bad work conditions of any kind to affect workers health and safety.

#### Informal Economy and Female Participation

According to the International Labor Organization (1993), the informal economy is characterized by units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labor and capital as factors of production and on a small scale (International Labor Organization, 1993). The informal economy is so large that it consists of more than half of the total labor force and more than 90% of Micro and Small Enterprises (MSEs) worldwide (International Labor Organization, 2002). There is also the general conception that the informal economy employs the highest labor force because people voluntarily engage in informal activities to deliberately avoid extreme taxation and control from the

part of governments. However, another reason why the informal economy employs the highest labor force might be the lack of formal employment opportunities. Thus, the failure of the formal sector to create jobs in their necessary numbers has also driven many into the informal sector (Abraham, Ohemeng, & Ohemeng, 2017). For example, the size of the informal labor force in Africa is almost 80% and the sector also accounts for over 90% of the new jobs (Becker, 2004). Accordingly, the high labor force and the informality that characterize the informal economy to an extent could imply that most occupational health hazards are experienced by workers in this economy.

Female participation in the labor market is considered very significant worldwide because of its effect on the quality of life of women and their families. In addition, female labor force participation has gained significant interest among researchers and development specialists because it is often used as a proxy to measure progress towards gender quality (Amoateng, Lucas, & Kalule-Sabiti, 2004; Abraham et al., 2017). Considering that both males and females are actively involved in informal economy employment, the proportion of females involved has remained between 60 and 80% worldwide (International Labor Organization, 2016). Though there is evidence showing that women dominate the informal economy worldwide, it is believed that the number of women in this economy is still underreported. The reason is that women are often home-based workers or work on unpaid family lands and the enumeration of statistics on the household level is still difficult to measure (International Labor Organization, 2016). Globally, women predominate the informal economy and this sector is undoubtedly the primary source of employment for most people. For example, with agriculture aside,

women in Saharan Africa represent about 92% of the total job opportunities in the informal economy (against 71% for men). Almost 95% of these jobs are performed by women as self-employed and only 5% as paid employees (International Labor Organization, 2002).

Within the informal economy, women are involved in work that is unprotected and badly paid, with high threats of occupational hazards (Chant & Pedwell, 2008; Heintz & Valodia, 2008). For example, in Africa, street vendors and market traders dominate much of the informal activities done by women (International Labor Organization, 2002). The informal economy has been taken into account as “the fallback position for women who are excluded from paid employment especially in those areas where cultural norms bar them from work outside the home or where because of conflict with household responsibilities, they cannot undertake regular employee working hours” (United Nations, 1997, p. 232). The dominance of women in informal/vulnerable employment also implies that their occupational health and safety should be given enough attention. As such, even if women’s reproductive health issues are the most pressing worldwide, the primary cause of these health issues—such as their occupation—should be duly considered. Meaning that there is also the greater need to focus much attention on keeping women safe and healthy at their workplaces in order not to trickle down a bad effect on their health. Thus, focus on women’s health should be more preventive (such as ensuring their occupational health and safety) than curative. Overall, women’s occupational health hazards are very broad and can cause “cancers, accidents, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases, stress-

related disorders, communicable diseases and others” (World Health Organization, 2018b).

The informal economy in Ghana and female participation. Ghana’s informal sector employs about 90% of the country’s population (15 years and older) with a higher proportion of females accounting for 54.9% and males 45.1% (Ghana Statistical Service, 2016b). As it is the case on a worldwide level, 91% of women in Ghana participate in the informal economy (Abraham et al., 2017). By and large, Ghana’s economy could be characterized as mainly informal in terms of employment as most of the employees are farmers, artisans, craft-workers, traders, and small-scale food processors (Ghana Statistical Service, 2016b). On the other hand, the formal sector in Ghana is categorized as male-dominated because employment in this sector is dependent on the individual’s education and technological know-how and these prerequisites are mostly met by men for reasons ranging from cultural to institutional (Sackey, 2005).

In Ghana, there has been a rapid increase in employment in the informal sector despite the high risks of occupational hazards and Ghana’s economic growth performance over the last two decades has been attributed to the huge contribution of the informal sector (Ghana Statistical Service, 2016b). According to the reports by the Ghana Statistical Service (2008), formal employment has constantly declined from 13% in 1991/1992 to 9% in 2005/2006 and further declined to 6% in 2010 (Ghana Statistical Service, 2008, 2012, & 2014). The decline in formal employment could be a cause of the rapid increase in Ghana’s informal economy.

In many African countries, “the informal economy’s income accounts for almost 30 percent of total income and over 40 percent of total urban income” (Chen, 2001, p.71). The contribution of the informal sector to the gross domestic product (GDP) is possibly also significant. For those countries with an estimation, the share of the informal sector in non-agricultural GDP is between 45 to 60 percent (Chen, 2001). Similarly, the dominance of women in the informal sector in Ghana (and the world) suggests that they can have huge implications on the region’s development depending on the opportunities made available to them and how they are empowered to utilize those opportunities. However, in Ghana, the general attitude towards women’s contribution is perhaps far more apathetic and nonchalant than expected (Sossou, 2006).

Granted, there is a general sense of respect and recognition for the positive impact of women in the Ghanaian society; a classical reflection of this is captured in a famous Ghanaian adage that says, “If you educate a man, you educate an individual but when you educate a woman, you educate a whole nation.” This recognition, however, has to extend beyond a cliché and a general awareness to a more robust and focused strategy to empower and recognize women in the Ghanaian society. “Historically, women suffered oppression and domination by the patriarchal society in Ghana and they are taught to accept this position through socialization processes like initiation rites” (Sossou, 2006, p.40). As a result, many women (and girls) in many Ghanaian societies still lack access to education, good healthcare services and still face discrimination in many areas including state policy, leadership opportunities, economic and social opportunities. Also, a vast majority of women are not empowered economically and tend to rely on their husbands.

Though women's labor participation rates are generally high, their workforce is dominated by self-employed women involved in the informal sector due to traditional roles and occupational segregation by gender (Abraham et al., 2017; Atieno, 2006).

Agriculture maintains the highest proportion of the female labor in Ghana, with a total share of 44.7% of the total labor force (Amu, 2005). A good proportion of women (especially in rural areas) actually work as unpaid family labor on family lands. Women involved in agriculture in most parts of Ghana usually practice subsistence farming where they grow enough crops to feed themselves and their families. Others grow crops on large scale and trade with the surplus. The nature of women's farm work in Ghana is hectic. Maternal mortality could be attributed to the strenuous work done by pregnant women on farms (and other jobs) to sustain their families. Below is a personal account of how work and traditional roles negatively influence the health of women in Ghana.

*My first experience on a farm was when I visited my grandparents in my hometown (Mim) in December 2011. I was shocked to see a fully pregnant woman carrying large logs on her head and a baby at her back. These logs are used for fires when cooking and are very common in many rural communities. What really broke my heart was when I saw a man (supposed spouse) who held just a cutlass and followed up. Out of shock and confusion, I inquired from my grandparents why the man couldn't help out at least with the child. My grandparents gave me the impression that it was a normal practice and although some pregnant women had bled and died out of such strenuous farm duties, there was nothing anyone could do about it because it was a 'taboo' for men to carry something on their heads.*

Considering that currently, there are no exact statistics on the number of maternal mortalities caused by laborious duties in Ghana, many pregnant women have either lost their lives, fetus or both as a result of hard labor. A study by Senah (2003), revealed that although pregnancy and conception are strictly biological issues, they're significantly influenced by cultural beliefs and practices in Ghana. Further, the World Health Organization report on "Gender Equality, Work, and Health" indicated that activities that involve carrying heavy loads and walking long distances could lead to miscarriage and stillbirth, prolapsed uterus, menstrual disorders, and functional disability in women (World Health Organization, 2006).

According to the Ghana Statistical Service (2016b), there is a higher percentage of females in informal employment in urban than rural areas: 57.7% against 52.4% while the reverse is true for males 47.6% in rural and 42.3% in urban (Ghana Statistical Service, 2016b). This is possibly due to high-level female participation in trade in urban compared with rural areas. "Within the urban areas, informal employment is highest for persons in the wholesale and retail industry (31.3%) with the proportion of females (40.5%) being higher than males (19.5%)" (Ghana Statistical Service, 2016b). An open-air market is an integral place of work for women in Ghana because the trading activities that women engage in occur primarily in these markets. The women operating such hectic marketplaces do not hold any official political power but their collective force is what drives the consumer economy of Ghana (O'Neill, 2016). Despite the tremendous economic contributions of these market women, their workplace conditions are

unsanitary and problematic. Also, a greater number of the markets in Ghana are situated near slum areas.

The United Nations Human Settlement Program (2006), defines a slum as a group of individuals living in an urban area who lack one or more of the following: durable housing, sufficient living space, easy access to safe water, access to adequate sanitation and security of tenure that prevents forced evictions. Slums differ from one region to another and so the “degree of deprivation depends on how many of the five conditions that define slums are prevalent within a slum household” (United Nations Human Settlement Program, 2006, p.1). Globally, one in eight people live in slums and in total, around a billion people lived in slum conditions in the year 2016 (United Nations Human Settlement Program, 2016). Slums are suddenly becoming the dominant type of settlement in the cities of the developing world. Since 2000, the worldwide slum population expanded on average by six million a year. This means an upsurge of 16,500 persons daily. The world’s highest percentages of slum-dwellers are located in Sub-Saharan Africa where 59% of the urban population live in slums (United Nations, 2015).

The slum situation in Africa is described as growing at a rate that is twice the speed of the continent’s exploding cities (Davis, 2006). By 2050, Africa’s urban dwellers are anticipated to increase to 1.2 billion and unfortunately, most of the urban cities in African countries like Ghana are driven by the reproduction of poverty and lack of jobs due to “overurbanization” (UN-Habitat, 2013; Gugler, 1982). Unlike countries such as China and Korea that have enormous manufacturing export engines to sustain their economy, “overurbanization” in most third world countries results in what Davis (2006)



terms as “human dump”. Human dump describes the situation where urban waste and immigrants end-up-together, as in such infamous garbage slums. “Rather than the classical stereotype of the labor-intensive countryside and the capital-intensive industrial metropolis, the Third World now contains many examples of capital-intensive countrysides and labor-intensive deindustrialized cities” (Davis, 2006, p.16). In 2001, the slum population of Ghana was approximately 4.5 million people, growing at a rate of 1.83 percent per annum and distributed in the main cities in the country. This figure reached 4.9 million by 2010 and 5.3 million in 2014 (United Nations Human Settlement Program, 2016). These figures may well be an underestimation as the number of slum dwellers in Ghana and sub-Saharan Africa has been on a rising trajectory for the past 25 years. According to the 2016 African economic outlook report, more than half of Ghana’s population now live in urban areas, and the urbanization rate, with its associated difficulties, is projected to reach 72% by 2035 (African Development Bank Group, 2016).

The Greater-Accra region, which is Ghana’s capital city, has the highest number of slums with over 300 slum settlements (People’s Dialogue on Human Settlement Ghana, 2016). Accra was mentioned as one of the most vulnerable urban centers in the coastal regions of western Africa. The reason being that, aside from the prevalent slum settlements, the area is prone to various natural disasters such as flooding and disease outbreaks (UN-Habitat, 2016). Unending floods have been a continuous problem in Accra. In June 2015, a tragic incident occurred as hundreds of Ghanaians died in an explosion at a fuel station as they were seeking refuge from a flood disaster (Gadugah,

2015). The slum areas in Accra are mostly occupied by the urban poor and migrants from other regions (especially rural areas) who traveled to the capital city to search for economic activities. They settle within and near business zones like marketplaces. As Davis (2006), puts it, “the urban poor have to solve a complex equation as they try to optimize housing cost, tenure security, quality of shelter, a journey to work, and sometimes, personal safety” (Davis, 2006, p.27). For most of these people, a location near a job such as a produce market or train station is even more convenient than a roof.

Since slum areas and most marketplaces in Ghana are within the same locale, it is not uncommon to find the latter exhibiting similar environmental characteristics as most slum areas; overcrowding, poor or informal housing, poor sanitation, disease outbreaks, poverty and vice are common physical characteristics of market areas in Accra but the most alarming issue is poor sanitation. On a daily basis, it is likely for a visitor to see choked gutters and heaps of uncollected waste materials (attracting flies, pests, and insects) at some points in a market. This produces a stench that pollutes the air extensively and sometimes makes breathing difficult. Despite, the bad sanitary environment of markets in Accra, market traders (mostly women) are always compelled to work in such unhealthy circumstances in order to earn money to sustain their families. It's almost as if their very existence is dependent on their work. It is also common to see people (especially children) “attending to nature's call” in public due to the high user fee for public toilets in these markets. This situation is very demoralizing for females because to defecate, women and girls have to wait until dark in order to protect their dignity and privacy but this situation also exposes them to verbal harassment and even sexual assault.

In Ghana, fees for using public toilets was introduced by the military government in 1981 in the late 1990s toilets were privatized and are now described as a “gold mine” of profitability (Davis, 2006).

The enduring outbreak of diseases in Accra such as cholera, diarrhea, typhoid, malaria and other perilous diseases provides evidence on how the poor sanitation is a major health risk to the population. For example, Accra’s biggest market—Agbogbloshie, which is also the name of the suburb — is a “digital dumping ground—a destination for both legal and illegal dumping of electronic waste (e-waste) from industrialized nations” (UN-Habitat, 2014, p. 127). The poor sanitation in Agbogbloshie has claimed many lives in the past and is still claiming the lives of many people especially those located around the slum zone. The bad sanitation in most marketplaces is indeed a major threat to the health of women and the whole city. In Ghana, the general morbidity and mortality patterns show the linkage between poverty, gender disparities, and health. For example, the disease outbreaks (malaria, diarrhea, and pneumonia) affect more females than males and they could be vividly reduced by low-cost and effective preventive measures such as sanitation and health education (Ghana Health Service, 2004). Also, the equity gaps existing in access to health and nutrition services badly affects the poor (mostly women) and constrains their access to good medical care (Ghana Health Service, 2011).

The marketplaces form part of Ghana’s informal economy; which also means that they aren’t registered with Ghana’s Registrar General’s Department. However, the market women pay taxes to the local government to help provide them with sanitary services and social amenities, but judging from the usual market environment, it is

evident that the aforementioned sanitary services are inefficient (Alfers, 2009). “In the rest of the Third World, the idea of an interventionist state strongly committed to social housing and job development seems either a hallucination or a bad joke, because governments long ago abdicated any serious effort to combat slums and redress urban marginality” (Davis, 2006, p.62). Many market traders, especially women, work in environments that are unhealthy. They also work without the least protection from hazardous chemicals, in polluted air, or in situations that expose them to occupational accidents (Skolnik, 2016). So far, the measures implemented to support women’s health in Ghana also cover reproductive health concerns and this has led to less research and focus on women’s occupational health and safety (Avotri & Walters, 2001).

#### *Health Status of Maternal Market Traders in Ghana*

The health of most market women in Ghana is in or near jeopardy due to their poor work environment and needs immediate solution. However, one crucial aspect of market women’s health that has completely been ignored is the concern for maternal market traders. The most typical arrangement used by mothers with children under age of three in Accra is to care for children in the workplace while working (Quisumbing, Hallman, & Ruel, 2007; Waterhouse, Hill, & Hinde, 2017). It is therefore common to see mothers and their newborns at the workplace. Heavily pregnant women and nursing mothers (with babies from about a month old) are common in marketplaces in Accra. The reason being that for most Ghanaian women, the survival of their children depends on their access to the labor market. Hence most market women who obviously fall within this group fail to care about their health and are less probable to discriminate in their

choice of activities owing to the need to provide for their families (Atieno, 2006). Just like all other women in the informal sector without paid maternity leave, maternal market traders work hard to earn a living, sometimes disregarding their health and that of their babies. This group of women also experience greater stress and worry because they are either expecting newborns or have an extra mouth to feed.

The overcrowding in marketplaces in Accra as well as the recent decrease in purchases by customers has caused a reduction in the profits of most market traders. This has led to longer working hours before expected incomes or daily sales are made by traders. It is saddening to see mothers with their babies (who should've perhaps been home receiving care) enduring harsh and long workplace conditions in order to earn a living. A study conducted by Waterhouse et al. (2017) to explore the experiences of Ghanaian mothers in the combination of their economic activity and child care responsibilities revealed three main themes in their results. First, was the issue of role conflict as most research respondents reported that child care activities interfered with their work (especially in cases of child illness and breastfeeding). Second was the issue of role strain. For some women, their work–family structure had consequences for their own well-being in the form of tiredness and stress. The last theme was role enhancement where most women complained about working more in order to provide materially for their children and support their families. The performance of multiple roles (maternal and occupational) by women coupled with bad workplace conditions causes a lot of pressure and stress which then might affect their health (Foroughipour, Abedi, Azarbarzin, Dehghani, & Meamar, 2013).

Another study by Sappenfield, Jamieson, and Kourtis (2013) on maternal health revealed that mothers and their babies have higher health risks and are more susceptible to infectious diseases because of the changes in hormone levels and immune system function. Additionally, babies increased susceptibility to infectious pathogens has been attributed to an immature immune system (Basha, Surendran, & Pichichero, 2015). In Ghana, maternal market traders, just like all others, engage in strenuous work activities such as carrying and lifting heavy loads, but these factors may pose higher risks to their health and their babies due to changes in hormonal level and immune system dysfunction (Feinberg & Kelley, 1998; Sappenfield et al., 2013). The poor health of mothers is often linked to the poor health of babies and in the long run the failure of children to reach their greatest mental and physical capacity (Skolnik, 2016). Thus, the health of employed women is therefore the consequence of multifaceted actions (World Health Organization, 2006).

Many women of childbearing age are occupationally active and this also means that a lot of pregnancies and infant babies could be possibly exposed to occupational hazards which could negatively affect their health. Work-family research has focused mainly on western women despite the fact that women's economic labor and the significance of motherhood vary by country, culture, and time (Mokomane, 2014; Waterhouse et al., 2017). Since these variations are likely to have peculiar implications on women, it is therefore important to focus a study on specific women within a particular context to avoid overgeneralization. The effect of work on health makes taking into account work quality and conditions very important. Unsanitary and hostile working

environments affect the health of all workers but as the majority of women lack access to decent work and safe work environment, women are the most affected (World Health Organization, 2006). The research investigates the occupational health challenges of maternal market traders (probably the most vulnerable) in Ghana and suggests some interventions to address the situation. Also, as specific forms of employment are associated with specific health risks, this research will contribute to occupational health research of women's work in the informal economy; specifically, the effects of poor working conditions on the maternal and child health.

Lastly, occupational health research has been heavily criticized for the general absence of a gender standpoint, usually resulting in the exclusion of women and their concerns (World Health Organization, 2006). There is therefore little knowledge of the prevalence and incidence of diseases, accidents and risk factors related to both unpaid and paid women's work. This research aims to contribute to the Occupational Health Research of women's work in the informal economy.

### *Women in Ghana*

Ghana is a small developing country in West Africa near the equator with the Greenwich Meridian passing through it. The country is dead center on the geographically strategic Gulf of Guinea (Kwei, 2015). Ghana borders Togo to the east, Cote D'Ivoire to the west, to the north is Burkina Faso and on the south by miles of sandy beaches and oceanic view. The country occupies a unique position in the history and development of Sub-Saharan Africa because it was the first country in the region to gain independence from the British and has since then made some remarkable strides in its development.

Ghana is home to a population of about 28.3 million people including a burgeoning middle class with their ever-increasing spending power. The population of males and females is 13.8 million and 14.4 million respectively (Ghana Statistical Service, 2016a).

Ghana is a leading producer of cocoa and other commercial products such as gold, crude oil, and timber. Ghana's expanding economy attracts investors from across the globe. English is the country's official language and it dominates government and business affairs. Ghana is often described as "the gateway to Africa" largely attributed to its expanding economy and rich culture with an acclaimed hospitality. The culture of Ghana is rich and unexpectedly diverse for such a small population and is often celebrated by many tourists as a fascinating repository of cultural heritage. The culture is mainly manifested in language (with more than 100 ethnic groups speaking over 250 languages and dialects), dance, festivals, ceremonies /rites, forms of etiquettes and religious beliefs (GhanaWeb, 2018a). Ghana is also celebrated for its rich forests with wildlife. The charming and peaceful beaches attract tourists from both near and far.

In Ghana, women play the major role in cultural transfer whether it is teaching children languages at home or instructing them on cultural etiquette or meal preparation. Thus they form an indispensable part of the socio-cultural structure. Women also perform other social, economic and political activities in their various societies. Traditionally, women are taught to be accommodating, submissive and to perform roles that are mainly within the home/ household unit such as nurturing and having children, cooking, processing and keeping food, and managing existing resources to support family members (Dzisi, 2008). Women's labor participation rate is generally high, a rate of



71.1% with about 91% self-employed women in the informal sector of Ghana (Abraham et al., 2017). The existence of the informal economy offers women the privilege of also engaging in economic activities despite their generally low educational achievements. Thus, by producing goods at home for sale in the market or by harvesting and selling crops from family farms, they are able to earn a living whilst simultaneously performing other household duties. In rural Ghana, most women work as unpaid family labor in agriculture and agro-based enterprises—fish processing in coastal regions and shea nut picking/processing in the North—while women in the urban areas engage largely in commerce or small-scale trading activities.

Ghanaian women are underrepresented in the formal job sector and only 3.5% have made their way through into modern sector occupations and even fewer into administrative ranks (Baden, Green, Otoo-Oyortey, & Peasgood, 1994; Abraham et al., 2017). Within the formal sector, women are mostly concentrated in lower-wage jobs such as teaching, nursing, and midwifery. In most countries like Ghana, the GDP per head of the informal sector is generally low and this negatively affects the economic wellbeing of most females as they're the most represented in this sector. "Women's engagement in less lucrative activities than men is often a reflection of gender inequality" (Pick, Ross, & Dada, 2002). There is a universally held opinion that women in West Africa, especially Ghana, enjoy a greater level of economic and personal sufficiency than other countries in Sub-Saharan Africa. Whilst this perception may be relatively true, the autonomy of the majority of Ghanaian women is highly restrained by the limited range of their economic opportunities (Baden et al., 1994). Moreover, their increased involvement in trading

activities in the marketplaces alone is unlikely to lessen the economic discrimination since the influence of certain cultural and religious practices is the central basis for such inequalities. “The related fact is that women workers in the informal economy face a significant gender gap in earnings, arguably greater than that faced by women workers in the formal economy” (Chen, 2008). This is in large part due to the gender separation whereby women are concentrated in the informal economy and in lower-paid work.

There is also a significant divide in social and political roles of women in Ghana, which I believe limits opportunities available to women to succeed economically. In Ghana, women constitute about 51% of the population, but substantive positions held by women in government and corporate institutions make up less than 10%. Currently, out of a parliament of 275 people, women only take up 35 seats (The Media Foundation for West Africa, 2017). That’s about 12.75% for a country where women outnumber men. Even within government-owned institutions such as schools, hospitals, and government offices, women generally occupy the lower and junior managerial positions. In Ghana, small communities of about 2000 to 4000 people are scattered in rural areas and these communities have their own community leaders who enforce laws and take decisions on crime, domestic violence, etc. In many such communities in Ghana, particularly communities in the Northern part, women are not allowed to occupy leadership positions or participate in public decision making. Similarly, women rarely assume chieftaincy positions or play the role of family heads because they are seen to be weaker parties (Odame, 2014). Indeed, the traditional systems in Ghana are largely pro-male, which makes it very difficult for women to climb up and assume higher leadership positions.

This gendered ideology of women being inferior to men has been engrafted into our systems and the fabric of society, thus giving power to men and disadvantaging women.

Education is a universal human right irrespective of one's gender construct. This was pointed out by Zeid Ra'ad Al Hussein, the former United Nations High Commissioner for Human Rights, who has been stressing the importance of education for all children. The Ghana Statistical Service (2012) reported that 31% of Ghanaians aged 15 years and above have never been to school, a total of 35.7% have only acquired basic education and 33.3% have attained secondary school or higher (Ghana Statistical Service, 2012). This was indeed a striking report considering the significance of education on a nation's development and also the huge advancements other nations are making in the area of education. In spite of Ghana's education act of 1960, which explained and required elementary education for all, some parents are still reluctant to send their daughters to school. A few decades back, it was not uncommon to see parents discouraging their female wards from going to school. This was partly due to a cultural misconception that highly educated women cannot find suitable husbands since the men become intimidated by them. "Traditional values (i.e., cultural practices and beliefs that are represented as having been drawn and passed down by a people's ancestors) are richly textured and diverse in Ghana, but one pattern that runs through all of that diversity is the male-centered thought processes that permeate the culture" (Offei-Aboagye, 1994).

Currently, although "education for all" is respected and recognized in Ghana, a woman's worth is secretly measured by her reproductive and domestic labor and not the level of education. The cultural expectations of "being a woman" are strictly centered on

certain gender roles. This, in turn, limits women's access to formal education and employment as they lack the necessary qualifications and skills. "According to modernization theorists, economic development is positively associated with female labor force participation through change in the country's occupational structure" (Abraham et al., 2017). The modernization theory assumes that the social acceptance of women's education and formal employment lowers fertility and women can benefit from modernization (Heckman, 1980; Bauer & Shin, 1987; Sunghee, 1991). As such, modernization theorists believe that the increasing availability of formal jobs and educational opportunities for females could increase the economic development of countries. Clearly, it is evident how such a system or nation (Ghana) cannot make huge strides in development when a major portion of its female population has limited access to education and formal employment.

In Ghana, discrimination against women remains a widespread practice across many walks of life, whether in national leadership or in a home of three. The influence of certain religious and cultural practices is a central basis for such discrimination against women. When women are discriminated against, they are denied their rights and their freedom is infringed upon. Even though the rule of law exists to make sure all individuals are protected and treated fairly, people, especially women, are often denied justice. In the light of this, many international organizations and governments have set out developmental models to empower women and put women in a better position to claim their rights. Part of United Nations' efforts in fighting gender disparities is the establishment of the Millennium Development Goals in the year 2000.

The importance of women in the society urged the United Nations to make a connection between the development Goal 3 and gender equality. The third goal particularly is to “Promote Gender Equality and Empower Women”, they recognized that, for example, women who are educated are better able to plan their family, receive better healthcare, practice good hygiene, enjoy their sexual freedom and above all, raise children in a thriving environment, than their uneducated counterparts. Hence, the main focus of this Millennium Development Goal was to create equal opportunities for women in areas such as education, healthcare, politics and economic activities to speed up community and personal development. This goal has then been implemented globally by utilizing empowerment programs, workshops and vocational training. Primary and secondary education has also been very much emphasized in this MDG’s implementation.

Women in Ghana have profited from such societal and institutional reforms ensuring more rights, freedoms and their contribution to national development. A notable one is the Millennium Development Goal 3, which was implemented by the United Nations’ towards gender equality and women’s empowerment (equal enrolment in schools, political participation, decision making, and improved access to healthcare) by 2015. In the modern Ghanaian society, there has been an advancement in the access to education by females and availability of employment opportunities in the formal sector for women. Women and girls’ opportunities in education, public work, agriculture, finance and healthcare have improved, helping to lessen the effects of poverty in many regions. Also, a greater presence of women in urban areas and the creation of their own

business ventures have led to a positive change in the socio-economic status of women in Ghana.

Education has generally broadened the perspectives of women. Those who have basic education, for example, have sought to improve themselves not only through marriage and childbearing but also through an aspiration for improved quality of life for themselves and their families. Women are also taking leadership positions in local communities and standing at the forefront of any organization which strives to better the lives and improve the welfare of women and children (Dzisi, 2008). Currently, although the degree of women's involvement in educational, social, political and economic sphere aren't the same as that of men (in terms of educational level, wage earnings, leadership positions, and others), there has been a tremendous improvement in women's lives as compared to a few decades back.

## CHAPTER 2

### LITERATURE REVIEW

The person-environment-occupation model, developed by Law et al. (1996) was used to guide the overall purpose of this research. The conceptual framework of this model emphasizes the relationship between the person, occupation, and environment and how these factors impact occupational performance, health, and well-being. With respect to a person, factors such as age, sex, gender, socioeconomic status, self-efficacy and others have an effect on occupational performance. In the same way, environmental factors, comprising social, physical, cultural and institutional characteristics, interrelate with personal factors to either expedite or hinder occupational performance. The last area which has an effect on occupational performance, health, and well-being is the occupation itself, which is comprised of the tasks and activities that persons perform on a daily basis. Hence, the effect of occupation on health is dependent on the relationship between the person, environment and occupation (Law et al., 1996).

Work life is a crucial area for action to improve the health of people and reduce gender inequality in health. Women are at a disadvantage in various spheres of the society when compared to men, and as a result, their issues have somewhat lacked visibility (World Health Organization, 2011). As an example, literature and policies on women's health have mainly considered women's reproductive health; leading to less research on the work-related issues of women (Avotri & Walters, 1999; World Health Organization, 1999). However, any adequate conceptualization of women's health should also involve women's total wellbeing which includes their work, nutrition, environment,

stress, and other factors (Kettel, 1996). This chapter reviews literature and concepts on women's occupational health and also explains how this study fills a gap in women's occupational health research.

Moreover, to adequately understand women's health, it is vital to recognize how each aspect of their lives (social, economic, biological, psychological, and others) contribute to their health and wellbeing. Thus, no particular or singular assessment of women's health will adequately reflect the complexities of their lives (Ruzek, Clarke, & Olesen, 1997). One critique of the commonly used biomedical models of health is with their narrow disease-focus which inadequately represents health because "they leave out, or only nominally consider, the social forces and contexts that shape women's health and women's lives" (Ruzek et al., 1997). However, feminist perspectives on women's health have encouraged the recognition of gender especially because of how it influences the cause, history and treatment of diseases. Also, "what becomes evident when the considerations of gender are explored within the context of health is that gender interacts with many of the other variables that are considered factors affecting health outcomes" (Low & Schuiling, 2017). Hence, in order to fully conceptualize women's health, models of health that reflect both the social and biological as well as psychological and spiritual dimensions of women's health should be developed to allow for better understanding and exploration of their health.

The first section of the literature review discusses the general effect of occupation on health and wellbeing. The second section reviews literature on the occupational health challenges of market traders in Ghana and beyond. Literature on the influence of



occupation on maternal health is reviewed at the next section. The fourth section discusses the influence of occupational health risks on children's health and finally, studies on occupational health and safety management are explored.

### Effect of Occupation on Health and Well-Being

According to the American Occupational Therapy Association (1995), occupation refers to an individual's act of participation and self-maintenance, work, leisure and play. In other words, occupation may refer to group activities and tasks of daily life that people take part in to occupy themselves, including looking after themselves (self-care), enjoying life (leisure), and contributing to the social and economic framework of their communities (Townsend & Canadian Association of Occupational Therapists, 1997). Working or participating in everyday occupations is an indispensable part of human life and development. Through the work we do, we acquire skills and capabilities, bond with others and our communities, and find purpose and meaning in life (Law, 2002). However, the work we do has an important influence on our health and well-being (Harris, Pedersen, Stacey, McClearn, & Nesselroade, 1992; Law, Steinwender, & Leclair, 1998; Alfors, 2009; World Health Organization, 2018a). The connection between people and their occupation is not linear but a constantly interacting relationship that influences the way in which individuals perform daily tasks and activities. This performance, in turn, is believed to influence health and well-being (Law et al., 1998).

A study by Harris et al. (1992) aimed to find the factors influencing health and well-being provided some of the most interesting support for the influence of occupation on health and well-being. A group of 1,448 people were studied to explore differences in

people above and below 65 years of age concerning the connection between life satisfaction and health. Findings for both groups indicated that environmental influences (which in this study included activity participation) had a substantial influence on perceived health. Another research by Strong, Law, Eyles, and Willms (1995) concluded that the experience of work control and not just the work process led to an improved life satisfaction and changes in community living patterns for persons with mental disabilities (Strong et al., 1995). Thus, features of work, such as choice and control and not just the type of work activity led to increased quality of life.

It is also interesting to know that aside from the performance of everyday occupations and their related environment, the withdrawal of occupation may also have an impact on people's health. Withdrawal of occupation may lead to increase in stress, physiological changes and declined health for a person (Lokk, Arnetz, & Theorell, 1993; Law et al., 1998). Lokk et al. (1993) conducted a study to explore the effects of the "withdrawal of occupation" on 24 long-term attenders of an elderly daycare unit. Researchers found that closing the daycare unit led to a rise in plasma prolactin and cortisol levels (indicators of psychological stress). However, after reopening the daycare, prolactin levels remained high but cortisol levels dropped significantly. The authors concluded that the closing had a more evident effect than expected on participant' stress levels, and the stress, as measured by blood plasma variables (Lokk et al., 1993). Lastly, as the health enhancement model suggests, workers also derive health benefits from participating in socially valued roles such as gainful employment and parenthood (Messias et al., 1997). As such, gainful employment may have a positive influence on the

health of workers by providing opportunities for support, self-esteem, and self-identity whereas stress related jobs and poor work environment may be detrimental to health (Hibbard & Pope, 1985).

Women constitute a large percentage of the workforce in many countries and the proportion of women in the paid labor force has increased extensively (World Health Organization, 2006). On average, women constitute about 42% of the estimated global paid working population, making them essential providers to national economies (World Health Organization, 2004a). Thus, women's visible presence in both paid and unpaid employment brings to light the importance of protecting their health at the workplace (World Health Organization, 2004a). The lives of all females around the world are affected by a sequence of factors, "epidemiological, demographic, social, cultural, economic and environmental" (World Health Organization, 2009b). These same factors influence the lives of males but some adversities affect girls and women in particular. For example, it is a usual biological occurrence that sex ratios at birth tend slightly to favor boys. Thus, for every "100 boys born there are between 94 (Africa) to 98 (other parts of the world) girls" (World Health Organization, 2009b). In some settings, societal discrimination against females and parental preference for sons end in skewed sex ratios (World Health Organization, 2009b).

Similar to the societal discrimination against females, the workplace is a setting where gender inequalities are both expressed and persistent, with consequent impacts on health. For example, women are more likely to work in the informal economy sector and do specific types of informal work, such as domestic work, street vending and sex work

(World Health Organization, 2006). Also, globally, women generally occupy lower ranks than men and they “suffer more from growing competitive pressures, resulting in job insecurity, limited possibilities for training and promotion, and inadequate social benefits (e.g. insurance, sick leave)” (World Health Organization, 2004a).

According to the World Health Organization (2004a), women constitute the majority of workers exposed to risks of infection, violence, musculoskeletal injuries, and burnout. As such, they suffer hazards, discrimination, attacks, and harassment more often than men, especially if they enter modern occupations. For example, in South Africa, women are exposed more often to pesticides indirectly during planting and harvesting than men directly during application (World Health Organization, 2004a). Surprisingly, some research on women’s occupational mortality and morbidity show that women have a much lower risk of occupational injuries and accidents than men. This situation could be attributed to women’s household work which is under-recorded and undervalued (International Labor Organization, 2016). Hence, very little is known in detail about women’s health challenges that occur within the household environment such as respiratory and musculoskeletal diseases brought on by household cooking (Dennerstein et al., 1999). In short, “many of women’s work-related accidents and diseases are not recorded as occupational, not compensated by work insurance systems and not included in thinking about occupational health” (World Health Organization, 2004a).

In Ghana, much of women’s work has traditionally been carried out within the context of the family such as growing food on a family plot, cooking and washing for the family, taking care of children, finding fuel, gathering water, preparing foods for family

and others. Hence, the occupational environment in which many women, particularly rural women in Ghana, work today remains within the home. However, as women find new occupations outside the home, they suffer additional occupational health challenges which place a much greater toll on their health and wellbeing. “As women move beyond their traditional occupations, they meet new health hazards which may either replace or add to their existing occupational exposure” (Dennerstein et al., 1999). The double exposure to occupational health hazards in the home and at the workplace leads to a multiplying effect of various health challenges on most Ghanaian women. For example, most urban Ghanaian women continue to manage their families in addition to their tedious work such as selling in severe conditions outside the home (Levin et al., 1999).

The discussions provide an overview on how occupation affects the health and wellbeing of people in several ways. Thus, the effect could either be positive or negative depending on the interacting factors between the work and worker (Harris et al., 1992; Law et al., 1998; World Health Organization, 2018b). For example, workers who have adequate control and are satisfied with their work are less likely to experience occupational health challenges as compared to workers in stress related jobs and unhealthy work conditions.

#### Occupational Health Challenges of Market Traders (and Women in the Informal Economy)

So far, there's no study on the occupational health challenges of maternal market traders in Ghana so this research intends to fill the gap. However, several researches on women's health in Ghana suggest that occupational hazards contribute to women's ill

health. A study by Avotri and Walters (1999) on “Ghanaian women’s accounts of their work and their health” suggested that a significant number of women suffered from physical and psychosocial health problems due to their work responsibilities. According to the research findings, reproductive health problems did not count highly among the problems the women expressed. “Almost three-quarters of them spoke at length of psycho-social health problems such as ‘thinking too much’ and ‘worrying too much’” (Avotri & Walters, 1999).

Other health problems expressed were tiredness, not being able to sleep, headaches, and bodily aches. In describing the cause of these problems, one of the most frequently recurring themes in women’s accounts was their work responsibilities. Researchers also discussed the exact relations between the nature of women’s work and the health problems they experienced, in particular, the physical toll of their work and the environment (Avotri & Walters, 1999). These findings were later supported by Hill et al. (2007) in a research on women’s health in Accra. The study found pain to be common amongst women reporting at hospital outpatient departments. The types of pain reported by the women included back pain, joint pain, muscle pain, and stiff joints; and it was a result of the heavy workloads, suggesting once again that occupational factors play a significant role in women’s ill health.

Another study done by Alfors (2009) to examine the occupational health and safety of market and street traders in Ghana stated that women’s occupational health and safety was underestimated despite the fact that most women were concentrated in vulnerable employment. This unfortunate situation could be attributed to the deep-rooted

gender-based discrimination faced by women in Ghana (Offei-Aboagye, 1994; Sossou, 2006). The findings stated that traders faced some physical and psychological health challenges due to their workload and poor working conditions (Alfers, 2009). Idyorough and Ishor (2014) also researched on the “occupational health challenges of female yam traders in Nigeria” and provided research findings that a majority of market women suffered from health problems arising from long hours of hawking and their unhealthy work environment. The health problems included general body pains, fatigue, malaria, feverish conditions and isolated incidences of being knocked down by a vehicle. The source of these health challenges was their unsanitary work environment (Alfers, 2009; Idyorough & Ishor, 2014; Olurinola, Fadayomi, Amoo, & Ola-David, 2014).

Research by Pick et al. (2002) on the health hazards encountered by women street vendors in Johannesburg, South Africa concluded that over half of the women (54%), complained of a work-related illness or injury, mainly burns, cuts, headaches and musculoskeletal problems. More than half (52%) of the women reported that they were not happy with the working environment for reasons extending from lack of shelter and dirt (34%), noise (26%) and having to clean the area themselves (24%). Another study conducted by Olurinola et al. (2014), to examine occupational hazards of street traders in Nigeria found that in the last one year prior to the survey, 25% of the traders have suffered injury, while 49.1% have experienced harassment from public authority officials.

A recent study by Wrigley-Asante (2013) on the health-related challenges of women in the informal economy, found that the most common health challenges that

were discussed were physical health challenges (musculoskeletal problems) such as body aches, back pains, waist pains and swollen feet (Avotri & Walters, 1999; Alfors, 2009; Wrigley-Asante, 2013). The women also experienced psychosocial problems due to constant thinking and “worrying too much” about their safety in the vehicles, armed robbers, and untrustworthy customers as well as the safety of the children they leave behind. In line with the research findings, another a study by Boadu (2013), drew attention to the various hazards involved in the street hawking business that hawkers faced as a result of their line of work. These health hazards came in the form of motor accidents, body aches, neck pains, backache, spinal injuries, headaches, swollen feet, lung and kidney problems among others due to prolonged standing, inhaling fumes from vehicles, running around and harsh weather conditions (Boadu, 2013).

Workers at any work setting may be exposed to a variety of workplace hazards in the course of performing their functions. Such workplace hazards may be physical, biological, safety, chemical, ergonomic and psychological. However, market traders are prone to several (physical, biological, safety, psychological, and chemical) work hazards due to the nature of their work and environment (Asumeng, Asaman, Afful, & Agyemang, 2015). They work in unhealthy and hazardous environments; such work environments include waste dumps, traffic accidents, fire hazards, crime and assault and weather-related discomfort (Alfors, 2009; Avotri & Walters, 1999; Idyorough & Ishor, 2014). Therefore, there’s a possibility that the health of market traders may decline in the face of profound environmental hazards and deep-seated deprivations (Pick et al., 2002; Sverdlik, 2011; Alfors, 2009; Olurinola et al., 2014; Idyorough & Ishor, 2014).



The findings support of these many researchers the idea of many scholars and researchers that occupational health challenges are experienced mostly by women in the informal sector (Ikechebelu, Udigwe, Ezechukwu, Ndinechi, & Joe-Ikechebelu, 2008; Idyorough & Ishor, 2014; WIEGO, 2014). Though this section somewhat answers the research question, “What are some occupational health challenges of maternal market traders?” by discussing studies done on the work conditions of market traders and some health challenges they face, there are no studies that specifically focus on the occupational health challenges of maternal market traders in Ghana, so this research will fill this gap.

Influence of occupation on maternal health. Maternal and occupational roles although interrelated, are complex practices affected by both personal and social factors such as supporting systems, work conditions, and cultural situations. Therefore, exploring the experiences of working mothers is a step towards advancing maternal and child health (Foroughipour et al., 2013). Also, a greater number of women of childbearing age are in the workforce worldwide. This makes considering occupational health and safety paramount to maternal reproductive health.

“Working during pregnancy is not in and of itself a risk but women around the world continue to face considerable maternity-related threats to their health and economic security. Women continue to face dismissal and discrimination in hiring on the basis of maternity. Workplace environments can pose hazards to reproductive health (e.g. exposure to pesticides, solvents and other chemicals); requirements of physically demanding work (e.g. heavy lifting); and irregular or long working hours: all can have potentially negative effects for the health of expectant or nursing workers and their babies” (International Labor Organization, 2011b).

Generally, the influence of work on maternal health is not considered risky but contributing factors such as stress and poor work conditions can have extreme consequences on maternal health (Salihu, Myers, & August, 2012). Some studies on maternal and occupational roles explain how some contributing factors of work impact maternal health. Recent studies by Sumra and Schillaci (2015) and by Avrech Bar and Jarus (2015) to determine whether women who engage in multiple social roles (occupational and maternal) experience more stress, findings suggested that “super women” (super women are defined as women who are engaged in the wife/mother/worker combination), do not experience higher stress or reduced life fulfillment in comparison with women who engage in only occupational roles (Sumra & Schillaci, 2015; Avrech Bar & Jarus, 2015). The research findings support the notion that working mothers do not experience any health challenges due to their work but rather due to the contributing factors such as—social support—that mediate the relationship between the mothers and their job.

Alternatively, Foroughipour et al. (2013) concluded that women who perform multiple roles (maternal and occupational) experience high levels of pressure and stress which affect their mental and physical health. These results were due to the contributing factors such as stress and high workload. Another study by Chatterji, Markowitz, and Brooks-Gunn (2013), investigated the effects of early maternal employment on maternal mental and overall health and found that early maternal work caused depressive symptoms and parenting stress but had no connection with their overall health. Lukmanji (1992) argued that the interaction of women’s work and their health is complex and

multifactorial owing to variations in the environment and socio-economic conditions (especially within developing countries). There is therefore a critical need to re-examine the diverse assumptions existing on women's occupation and not only their maternal roles when finding the relationship existing between them.

The influence of work on maternal health in the face of poor social amenities and infrastructural deterioration ruining developing countries, particularly those of sub-Saharan Africa, have rarely been recognized as significant factors in maternal health (Idowu, Edewor, & Amoo, 2014). In many countries such as Ghana, women constitute a greater percent of the workforce, and most are in their reproductive years. They are mostly employed in occupations with exposures to strenuous physical labor, chemicals, noise, communicable agents and stress (World Health Organization, 2004a). They engage in strenuous work activities such as carrying and lifting heavy loads, working in harsh weather conditions and working in hazardous environments. These factors may pose risks to the health of pregnant workers and their developing fetuses as well as nursing mothers and their babies (Feinberg & Kelley, 1998).

A study conducted by Idowu et al. (2014) on the "working conditions and maternal health challenges in Lagos state, Nigeria" concluded that while working has many health benefits especially for pregnant and nursing mothers, hazardous working conditions such as engaging in manual/unskilled jobs or less secure and low pay jobs can have adverse effects on maternal health. These researchers further stated that there were groups of jobs that posed more danger to pregnant women and nursing mothers such as street hawking, market trading, and casual jobs due to the hazardous environment

involved. In their research, a considerable number of the research participants experienced occupational health challenges like pre-eclampsia, excessive bleeding, convulsions/eclampsia, and other diseases. According to these researchers, the diseases were as a result of the participants' unhealthy working environment and that it called for immediate policy intervention (Idowu et al., 2014).

Ugal (2010) conducted a study to find the impact of household environment on maternal health and concluded that maintaining a good maternal health was as a result of the collective effects of not only the household environment but also, cultural practices, and work performed. Also, pregnant women who worked inside the home and those employed outside the home were found to be at a risk of musculoskeletal and genitourinary symptoms due to their work conditions. However, those who worked strictly in the home faced a greater risk. Hence, the effect of work should not be ignored when considering maternal during pregnancy (Torres-Arreola, Constantino-Casas, Villa-Barragán, & Doubova, 2007). Several studies have been done on the effects of work activities on maternal health; whereas in some studies maternal health was rarely affected by work, others showed significant effects of work on maternal health such as bleeding, preterm birth, low birth weight, and musculoskeletal diseases (Lindbohm, 2013). Thus, physically demanding work and other contributing factors can have intense consequences on maternal psychosocial health and plans to return to work after childbirth (Banerjee, 2009; Salihu et al., 2012).

Governments and non-governmental agencies in most developing countries have implemented policies and measures to improve maternal health outcomes around the

world but unfortunately, these strategies fail to tackle some social and cultural factors (like occupation) that negatively affect maternal health (Avotri & Walters, 2001). Meanwhile, the International Labor Organization (2011b) indicated that while most attention to maternal health and mortality has reasonably focused on the provision of health services and family planning methods, attention should be paid to mothers who are workers and need aid to protect their health while working and to ensure their financial safety during pregnancy and after childbirth. The research question, “How is the health of maternal market traders affected by their work condition” was therefore discussed in this section. No research has been conducted on how occupation affects maternal health in Ghana because the majority of research on issues of maternal health is often related to food beliefs and dietary practices (Aikins, 2014). This research fills that gap and further suggests some safety strategies that could be used to address occupational health issues of maternal market traders.

#### *Influence of Occupational Health Risks on Children's Health*

Although investigating the health of babies was not initially part of the research goal, a review of the literature indicated that the health of working mothers is intertwined with that of their babies, especially those they bring along to the workplace. Therefore, there was no way one could investigate the health of mothers without also considering the health of babies. In almost all countries around the world, women are primarily homemakers and caregivers. In the home, activities carried out by women may include breastfeeding, cooking, fetching water and fuel, cleaning, and seeking both preventative and curative medical care for her family's healthy development. In today's world, most

mothers have become part of the labor force as compared to previous times. However, due to the occupational health challenges that mothers face, both in and outside of the home, the health and wellbeing of their children including those unborn is also affected.

According to the World Health Organization report (2009a) on “occupational risks and children’s health” the exposure of parents to certain risks at the workplace can have a severe bearing on the health of their children. Generally, children have faster metabolic rates; they eat, drink and breathe more in relation to their body size, thus increasing their exposure to harmful substances in the environment. “Yet, a child’s immature organs and systems lack competence to detoxify and excrete potentially hazardous compounds” (Ehiri, 2009, p. 102). Also, children’s behaviors like hand-to-mouth picking of dust while crawling and the lack of selective inhalation can expose them to greater transmission of infections and make them more vulnerable to danger.

Ruhm (2008) investigated the impact of a mother’s average working hours increasing on child obesity and on the risk of a child becoming overweight. The researcher found that an additional 20 hours of employment per week for the mother raised her child’s likelihood of obesity by up to 20% and increased the risk of a child becoming overweight by up to 15%. Ruhm (2008) further investigated the influence of a mother’s average working hours on cognitive development and found that “advantaged” adolescents (those from families with higher socioeconomic statuses) suffer more harmful effects from increased maternal employment hours than do those adolescents from “disadvantaged” families.

Another study done by Miller and Han (2008), on the impact of maternal occupation on health and nutritional status of their children concluded that, mothers with irregular working shifts had a disruption in meal preparation and daily routines. Hence, children of employed mothers had poorer dietary habits and spent more time engaging in idle activities as compared to children of unemployed women. Selander et al., (2016) also produced research findings that occupational exposure to noise during pregnancy is associated with hearing dysfunction in children. The researchers explained that the sound which travels from the outside into the abdominal wall and the uterus to the fetal head during pregnancy could damage the inner and outer hair cells within the cochlea and could affect hearing in children.

The health of recently conceived and yet to be conceived children could also be affected by poor work environment although they do not work. According to the World Health Organization report (2009a) on “occupational risks and children’s health”, the exposure of future mothers and fathers to certain risks at the workplace can have a severe bearing on the health of their unborn child. Occupational health risks can affect the health of an unborn child in a number of ways. First, occupational exposures can cause menstrual problems, which may prevent ovulation from taking place (World Health Organization, 2009a). For example: stress, working on shifts, or contact to certain organic solvents can interrupt the normal menstrual cycle, which in turn can affect fertility in females. Another possible effect of exposure to certain occupational hazards is their ability to cause direct harm to the germ cells (sperm and eggs). Radiation and certain chemicals can cause reduced fertility or even barrenness. On the side of males,

occupational risks can decrease the number of sperm to a level below the marginal necessary for fertilization (World Health Organization, 2009a).

With regard to an already formed fetus, exposure to a particular hazard at one stage in a pregnancy may result in organ damage and at another stage in the pregnancy could cause the death of the fetus and miscarriage. Lastly, risks can occur from exposure to biological agents (such as bacteria and viruses), and physical agents (such as radiation) used in a variety of workplaces that are known to cause birth defects. Pregnant women are more severely affected by infections with some organisms, including influenza virus, hepatitis E virus (HEV), herpes simplex virus (HSV), and malaria parasites (Kourtis, Read, & Jamieson, 2014). Birth defects can include a wide range of physical abnormalities, such as bone or organ deformities, or behavioral and learning problems, such as a mental retardation (World Health Organization, 2009a). Hence, the exposure of future parents to health risks at the workplace can have a serious impact on the health of the unborn child (World Health Organization, 2009a; Kourtis et al., 2014).

Taskinen (1990) conducted a study on the “effects of parental occupational exposures on spontaneous abortion and congenital malformation” and concluded that occupational and environmental agents were believed to be the causes of at least some of the 60% of birth defects whose etiology is unknown. Also, a case-control study in France, concerning the relationship between maternal organic solvent exposure and oral clefts, showed that maternal occupational exposure during the first 2 months after conception had slightly but significantly increased the risk of offspring with cleft lip (Laumon,



Martin, Collet, & Martin, 1996). Generally, most genetic deformities are believed to be due to the interaction of both environmental and genetic influences (Shi & Chia, 2001).

During infancy, children can be exposed to hazards related to working when parents bring toxic hazards home through contaminated working clothes or shoes or may be open to environmental hazards when parents take them to work. Children may also be exposed to similar hazards as adults but children are more likely to suffer the health implications due to differences in their physiology and psychological development (Forastieri, 2002). Injuries, stunted growth, a defect in children's physical, mental or moral health and even death are some outcomes of exposure to hazards at the workplace. In a similar manner, early maternal employment is known to have a significant impact on the health of infants. "It may impede the development of secure infant bonding as well as the opportunity of extended breastfeeding, all of which are associated with a number of cognitive, emotional and health benefits" (Huerta et al., 2011). However, the effects of early maternal employment on child well-being are not straightforward; the effects will depend on the situation of the specific child, mother's type of work and family support (Huerta et al., 2011).

The early years of a child's exposure to occupational risk could also be detrimental to their health. A study conducted by Brooks-Gunn, Han, and Waldfogel (2010), to find the effects of first-year maternal employment on the first seven years on child development revealed that, with regard to cognitive outcomes, full-time maternal employment in the first 12 months of life is associated with significantly lower scores on some cognitive development at age 3, 4 ½, and first grade for non-Hispanic white

children. Another study by Han, Waldfogel, and Brooks-Gunn (2001) stated that early maternal employment has a significant negative effect on White children's cognitive outcomes at age 3 or 4 and that these effects persist to age 7 or 8 in some cases. However, the researchers found no significant effects of early maternal employment on cognitive outcomes for African American children, suggesting that the effects of early maternal employment do vary by racial and ethnic group.

Conversely, findings from a study by Lightbody (2015), indicated that maternal employment within the first four years had stronger positive effects on the motor and social development (improved motor and social development) for female children than it did for male children. The researcher further stated that, the enhanced cognitive and social development of children of mothers who worked was explained in part by more positive parent-child interactions presented by employed mothers (Lightbody, 2015). From the above discussed studies, it is clear that on the influence of occupational health risks on children's health is not direct; rather the impact depends on the situation of the specific child, mother's condition, mother's kind of work and family support.

In Ghana, maternal market traders (with infants) are common in most of marketplaces because early maternal employment implies getting more income to support the child's development, especially among low-income families. As such, long maternal leave may have a negative effect on future maternal earnings profiles and the child's well-being. However this practice is problematic considering that market traders in Ghana are prone to several health challenges due to the poor and unhealthy environment. Merely 15% of Ghana's population gain access to adequate sanitation, far below the

Millennium Development Goals target of 54% (UNICEF-Ghana, 2013). About a million babies are born every year in Ghana, out of which around 30,000 die in their initial 30 days after birth. The three major causes of neonatal deaths in Ghana are prematurity, infections and birth asphyxia (UNICEF-Ghana, 2013). Although the types and causes of neonatal infections were not stated, the infections are likely to be caused by the poor health condition of the mothers (as a result of their unsanitary work conditions).

In Nairobi-Kenya, slum children experience greater health issues than children in the rest of the country; “nearly half of the slum children under the age of five years are stunted, and infant and neonatal mortality in slum areas is greater than in the rest of the country. There are higher incidences of diarrhea and fever among Nairobi’s slum children” (UN-Habitat, 2014). This tragic incidence of neonatal mortality in Nairobi could also occur in Accra if appropriate development strategies and partnerships are not implemented to address the occupational health and safety of maternal market traders. Data on ‘Children in Ghana’ as provided by UNICEF-Ghana showed that the exposed drainage and lack of proper waste disposal and recycling systems are major springs of malaria (the leading cause of death for children under five) as well as diarrhea (killing thousands of children a year) in Accra (UNICEF-Ghana, 2013). This information provided by UNICEF wasn’t unexpected considering the poor sanitary conditions in some areas in Accra (especially marketplaces).

#### Occupational Health and Safety Management

Occupational health and safety measures are necessary to address the occupational diseases, and injuries affecting a large number of workers worldwide

(Lucchini & London, 2014). Although the International Labor Organization (ILO) conventions are planned to guide all countries in the promotion of workplace safety, only 5% to 10% of workers in developing countries and 20% to 50% of those in industrialized countries have access to adequate occupational health services (LaDou, 2003; Lucchini & London, 2014). Therefore, the absence of occupational health and safety programs in some institutions and sectors cause occupational hazards and strengthen the devastating consequences of infectious outbreaks such as tuberculosis (Lucchini & London, 2014). The growth of a business relies on the efficiency of the workforce and so, nothing is more important than creating a safe and healthy work environment for the workers.

Currently, there's no national policy on occupational health and safety management in Ghana even though the International Labor Organization's "Occupational Safety and Health Convention, 1981 (No. 155)" requires all members to "formulate, implement and periodically review a coherent national policy on occupational safety, occupational health and the working environment" for all workers, regardless of employment relationship or formality of status (International labor Organization, 1981; International labor Organization, 2002; Asumeng et al., 2015). There are about twenty-four laws, regulations and policies which provide guidelines for the regulation of employment, working conditions and labor relations for the formal economy in Ghana. Some of them are the Labor Act, 2003 (Act 651), Labor Regulation (2007) LI 1833, National Labor Commission Regulations (2006) LI 1822 and others (Ghana's Ministry of Employment and Labor Relations, 2014; Asumeng et al., 2015). In addition to these, the Ministry of Health and the Ghana Health Service, in collaboration with the World Health

Organization (WHO) commissioned the “Development of Policy and Guideline on Occupational Health and Safety” for the health sector which was published in June 2010 (Asumeng et al., 2015). However, these occupational health and safety laws are very limited in scope and fail to protect “all branches in which workers are employed” in Ghana (International Labor Organization, 1981).

So far, the measures implemented to support women’s health in Ghana mostly cover reproductive health concerns (Avotri & Walters, 2001; Wrigley-Asante, 2013). Subsequently, this has led to less research on women’s occupational health and the safety measures needed to improve their health in the workplace. A study by Wrigley-Asante (2013) recommended more attention to be paid to the work of women in the informal economy in order to know the ways in which women’s work affect their physical and mental health. It is only through this, that policies could be put in place to address the occupational health-related challenges of women in the informal economy (Wrigley-Asante, 2013). Alfors (2009) further stated that market and street traders were faced with a number of occupational health and safety risks, which had significant physical and psychological impact on the traders and so local government institutions had a greater responsibility for improving the working conditions of traders.

Ghanaian women play an active role in the economy. However, a study by Amu (2005) revealed that twice as many females as males have never been to school. This situation also explained why the concentration of women in skill and knowledge-based industries was low, as against the high concentration of women in the informal self-employment. The high concentration of females in Ghana in the informal sector also

implied that they were exposed to high occupational risks. Therefore, Amu (2005) suggested the formulation and implementation of some policies and programs to enhance women's participation both in the formal and informal economy. Examples of the recommendations were that customary laws and other tenancies which are discriminatory should be reformed to ensure that both men and women had equal access to economic opportunities.

Also, the development of training outreach should specifically be targeted to groups of women active in micro-enterprise, particularly in basic finance, accounting, management, and marketing (Amu, 2005). In addition, strategies for achieving gender justice with respect to the informal economy must address "the pervasive gendered constructs, roles and power relations which structure the wider social context in which different forms of work arise" (Chant & Pedwell, 2008). In other words, policies and activities addressing women's occupational health needs should be reassessed to ensure that they neither discriminate against women nor overlook potential occupational health risks among men.

Further, to help improve the occupational Health and Safety of workers in the informal economy, Becker (2004) suggested an operational approach towards the informal economy. International organizations like the Swedish International Development Cooperation Agency (Sida) should formulate programs and policies that target specific groups of workers in the informal economy in order to make implementation straightforward and easier (Becker, 2004). In addition, "international agreement about the classification of reproductive hazards (such as chemicals) and on the

precautions needed to protect both men and women from those hazards, should be developed” (Dennerstein et al., 1999).

Moreover, “shifting the organizational culture to support women in pregnancy, conducting early screening of occupational risk during the preconception period and monitoring manual labor conditions, including workplace environment and job duties” may help improve maternal and infant health outcomes and improve the workplace environment (Salihu et al., 2012). Considering the poor work environment of maternal market traders in Ghana, this study will suggest some specific measures that could be used to address their occupational health issues. The studies discussed here on the various dimensions of occupational health challenges of workers, particularly (women), bring to light the need to focus more attention on ensuring their occupational health safety such as creating safe workplace environments to protect their health.

### CHAPTER 3

#### RESEARCH METHOD

This study applies a qualitative research method in data collection and analysis. The qualitative research is committed to interpreting research findings to give a much clearer understanding and also represent the multiple views of participants including disadvantaged or marginalized groups (Tracy, 2013). Qualitative research methods undoubtedly give valuable insights to research which might be missed by other methods (Boadu, 2013). A researcher employing the qualitative research is able to investigate deeper into cultural and structural issues that surround the actions and behaviors of participants; and that is exactly what I hope to achieve with my research. For this study, using a qualitative research method will not only identify the occupational health challenges of maternal market traders but will also provide descriptions of the health challenges and reasons behind their occurrences. Again, using a qualitative research method will inquire about the how's, when's, why's and whose of the occupational health challenges of maternal market traders.

In spite of all the advantages, qualitative research has been criticized for providing data that is usually tainted by the subjective biases and ideas of the researcher so many researchers prefer using research methods that have clear-cut procedures in data collection and analysis (Denzin, 2011). However, I agree with Seale (1999) that knowledge no matter the form, is always mediated by preexisting values and ideas whether it is acknowledged by the researchers or not. While, objectivity, reliability and generalizability are useful standards in quantitative research, they sound rather like a



myth in qualitative research. For many qualitative researchers the very concept of an objective and bias-free research is impossible for anyone (Tracy, 2013). Thus in qualitative research, there is no single gold standard for evaluating humanistic work so researchers are guided by certain values that encourage viable and credible research with a variety of audiences.

Data for this study was obtained through participant observation (generating knowledge and understanding by watching and taking notes) and face-to-face interviews at the marketplaces (Tracy, 2013). As such, while I did not collect demographic information from my participants, my observations revealed some important information about them.

#### Research Participants and Setting

The twenty four participants for this study were all maternal (pregnant and nursing mothers) market traders who sold a wide array of both farm produce and manufactured products in the Ashaiman, Makola, Madina and Kaneshie markets. Although, I did not explicitly collect demographic information such as ethnicity, gender, age, education for the study, the participants were of childbearing age and, as such, were young women between the ages of 18-35 years. Through the interviews, I realized that the participants had little basic education or no education at all and they entirely depended on their work as market traders to earn a living. The participants were mainly Akans (the largest ethnic group in Ghana comprising of a cluster of people living in southern and central Ghana) with great farming and trading skills. Further, there was no age limit for the babies of the nursing mothers but most of the nursing mothers

interviewed had babies from 6 months to 1 year old. I interviewed six participants (3 pregnant and 3 nursing mothers) from each marketplace and each participant traded in at least one of these items; plantains, baby diapers, cassava and corn dough, yams, vegetables, palm fruit, smoked and fresh fish, cooked food, detergents, second-hand clothes, and sachet water. My major concern was not on male traders but I observed that the male traders sold more 'valuable' goods like textiles, electrical appliances and shoes while the dominant female traders sold inexpensive goods like food, vegetables and sachet water.

The marketplaces (Ashaiman, Makola, Madina and Kaneshie) where I conducted the interviews are currently amongst the biggest in Ghana and very well-known for the numerous and varying trading activities occurring there. Each market is located farther away from the others and so it serves residents within and around its locality. Due to the long distances between these markets and the specific purpose each market serves, it is unlikely to find a trader or buyer in all four markets; except for exceptional reasons such as the absence of a product in one market or differences in market days. Indeed, conducting interviews in four different markets made room for more varying responses to be recorded. All of the markets I visited were similar in character. Each market was located close to a slum community, and the markets took on the environmental characteristics of the nearby slums. The market environment was usually busy as the trading activities run from as early as 5:30 am till 8:00 pm in all four markets.

### Data Collection Process

Prior to the data collection, I went through the University of Northern Iowa IRB process and I adhered to all IRB policies and procedures for human subjects' research. The participants were not forced or persuaded to participate in the study but an oral consent was sought appropriately before they were selected and interviewed. Data for the study was collected in July and August, 2018. For the participant selection and interviewing process, I visited each marketplace (Madina, Ashaiman, Makola, and Kaneshie) and observed to identify the market traders who fit into the criteria (pregnant or nursing mothers). After my observation, I approached the possible participants and talked to them briefly about the study. This was done to make our intentions known and take away any suspicions. I then proceeded to reading out the recruiting script/oral consent if they agreed to participate in the study. After which I asked the interview questions. The face-to-face interviews lasted between 20-30 minutes for each participant and they occurred at participants' selling spots. I interpreted and explained interview questions for participants to understand and so the responses were direct and accurate. The interviews were audio-recorded and consent was given by each participant before their voice was recorded. The audio recordings were useful in ensuring that no relevant information was lost because translation and transcription had to be done later.

All participants could not read, write and articulate the English language well so we communicated using a local dialect, Twi. Twi is the leading Akan language (and leading native language) spoken in Ghana (GhanaWeb, 2018b). Since Twi is widely spoken even among Ghanaians who are not Akans, it has long been the language of trade

among Ghana's diverse ethnic groups. The interview questions focused on their workplace hazards/occupational health risks, the health challenges they encountered due to their work, and some suggestive measures on how to help minimize their health challenges. Indeed, the interviews allowed for clarifications and more descriptive data/answers to be obtained. In sum a total of 24 interviews were conducted within two months.

Data analysis. Bogdan and Biklen (2007) explained data analysis as a systematic process of examining and ordering all information obtained from interview transcripts, field notes and other materials collected to increase understanding of the data and enable a better presentation of what has been found. In qualitative research, data analysis can occur in various ways such as the constant comparative analysis, phenomenological approaches, ethnographic methods, and narrative analysis and so on (Conrad, Neumann, Haworth, & Scott, 1993). For this research, I used the thematic analysis approach to analyze the interview responses. This data-analytic process involves “looking over data in order to identify recurrent, salient and self-evident points, issues, words, terms, events, language, discourse, images, and allusions” to identify patterned meaning across the datasets (Stokes, 2011, p.125). Thematic analysis is a procedure that is used in a range of research methodologies. It is particularly employed in inductive and interpretive research style; researchers read and re-read the raw data many times to help code and find prevailing themes. The process of constantly reading data and comparing with other datasets in order code is termed constant comparison (Stokes, 2011). The constant comparative method is useful in reexamining the data against the developing categories

as well as their related characteristics. For example, by comparing the accounts of different people who had a similar experience, a researcher might pose analytical questions like: Why is this different from that? Or how are these two related?

In many qualitative studies whose purpose it is to generate knowledge about common themes within human experience, this process compares each new interview until all have been compared with each other (Thorne, 2000). The advantage of using the thematic data analysis method is that the research begins with raw data review and through constant comparisons a grounded theory develops (Glaser & Strauss, 1967). The thematic analysis approach was developed for use in the grounded theory methodology. In a grounded theory approach, examining and ordering all information into units and coding them are integral parts of the analysis process (Miles & Huberman, 1994). For this study, interviews lasted between 20 to 30 minutes for each participant. Translation and transcription lasted for about six months, after all the interviews had conducted, as the transcripts had to be checked many times against original recordings for accuracy and quality of written text. Braun and Clarke (2013), stated that there are six phases of thematic analysis.

The first stage of the data analysis involved listening, translating and transcribing interviews. As the researcher and the translator, I first listened to the audio-recorded interviews, translated and transcribed them into English. After, I read each interview transcript and checked each transcript many times against original recordings to make sure no information was omitted or misinterpreted. After transcribing, I read through the transcripts to correct spelling errors. According to Braun and Clarke (2013), the purpose

of this step is to get the qualitative researcher engaged with the data and begin thinking about frequent topics discussed by participants. As I read through the transcripts, I noted the prevalent topics/concepts on a sheet of paper. These notes helped with moving into the second phase of thematic analysis.

For the next stage, I generated codes to identify the important features of the data that are relevant to answering the research questions. Coding simply refers to the systematic way of organizing, labelling and gaining meaningful parts of data as it relates to the research question(s) (Tracy, 2013). To answer research questions, I carefully read through the transcripts to identify the useful concepts. I further marked the key phrases and sentences that related to the research questions with different color pencils. For example, health challenges like waist, neck, abdominal and back pains were marked in red and grouped under the label “musculoskeletal pains”. Basically, this process involved breaking data into conceptual components and after that, collating all the codes and all relevant data extracts, together for later stages of analysis (Tracy, 2013).

Once the datasets were coded, I grouped and named the concepts (codes) that answered a particular research question under a bigger category. After the codes grouping, I labelled the groups based on the meaning or connection with other codes. The code clusters were further examined to identify significant broader patterns of meaning (potential themes). In some cases, the two or more clusters were put together to form a larger label. The labels were reviewed and expanded on to form the themes. This process continued until there was no further clustering possible. For example, health challenges

such as the musculoskeletal pains, bleeding, and miscarriages were grouped under the theme “physical health challenges”.

For the next stage, I reviewed the themes against the data to make sure the themes captured the meaningful aspects of the data and answered the research questions. Once the themes were established to represent the data, I moved onto the fifth phase of Thematic Analysis. This process involved using the label under each theme to develop an informative name that describes the relationship or meaning in the theme. For example, health challenges under the label physical health challenges were explained as diseases that affect the physical body and can sometimes be seen. Basically, this step involves finding an informative name for each theme. Finally, I designated all the themes that answered research questions well final themes. I then presented the findings and interpretation of the data in relation to existing literature.

## CHAPTER 4

### RESULTS

The findings were presented in a sequential order to provide enough information for each research question. Some interview responses were chosen and highlighted because they were representative of all other narratives. From the results, two sets of themes were generated; one pertaining to the hazards the market women faced and the second relating to the effects of those hazards on their health.

**Occupational Health Hazards Faced by Maternal Market Traders:** The first research question asked about the health hazards existing in the marketplaces. The participants mentioned a lot of workplace hazards that were detrimental to their health but the hazards mentioned most frequently in their responses were poor sanitation, fire outbreaks, overcrowdedness, harassment from local officials, weather conditions, and excessive workloads. Through personal observation, I noticed some health hazards in the market environment which were not mentioned by participants. Some were the prevalence of rodents and flies, babies playing in dirt, people accidentally stepping on babies, people sneezing and coughing without covering up, and traders using dirty hands to sell.

#### **Poor Sanitation.**

According to the World Health Organization (2018c), “Sanitation refers to the provision of facilities and services for the safe management of human excreta from the toilet to containment and storage and treatment onsite or conveyance, treatment and eventual safe end use or disposal”. In simple terms, sanitation refers to the maintenance



of hygienic conditions, through ways such as garbage collection and wastewater disposal to have a positive impact on health both in households and across societies. In various developing countries such as Ghana, the issue of poor sanitation is not just a slum issue but a nationwide problem. Ghana's economy is one of Africa's strongest and part of the world's fastest-growing economies growing an estimated 8.5% and stimulated by the recovery in non-oil sectors, an improvement in commodity prices, positive financing conditions, and slowing inflation that helped to increase household demand (McDonell, 2018; Awazam & Okudzeto, 2018). Yet, poor sanitation is one of the biggest issues in Ghana.

Ghana's water and sanitation sector has made vital reforms to address weaknesses. Since early 1990, appropriate institutional, legal and regulatory structures have been put in place to check and improve water supply system (Ulrich, 2017). However, the same cannot be said for sanitation. The WHO/UNICEF Joint Monitoring Program for Water Supply, Sanitation and Hygiene (2015) reported that Ghana's improved sanitation coverage been around 14%, accounting for one of lowest in Africa. This means that only 14 in every 100 Ghanaians have access to sanitation facilities and services, while the rest are left helpless against the adverse consequences. The picture of sanitation in Ghana is embarrassing considering the fact that people still practice open defecation and throw heaps of rubbish on streets, into drains and water bodies. In Knott's article titled "One of Africa's Most Promising Cities has a Trash Problem," they described Accra's gutters as persistently clogged because people treat gutters as refuse

dumps and also after rainfall, piles of rubbish are washed away from the streets to fill open spaces holes and drains (Knott, 2018).

The poor sanitary environment has been a major cause of communicable diseases like malaria, diarrhea and cholera in major cities such as Accra and Kumasi and has also contributed to floods in rainy seasons. In March 2012, the World Bank evaluated that Ghana's economy loses GH420 million Ghanaian cedis each year (US\$290 million, 1.6 percent of GDP) due to poor sanitation. In that same year, a study done by the Global Water and Sanitation Program estimated that "the majority (74%) of these costs come from the annual premature death of 19,000 Ghanaians from diarrheal disease, including 5,100 children under the age of 5, nearly 90% of which is directly attributable to poor water, sanitation, and hygiene" (Global Water and Sanitation Program, 2012). Due to the persistent consequences of poor environmental sanitation such as the striking cholera outbreak that claimed over 150 lives in Ghana, the President of Ghana on November 1, 2014 declared the first Saturday of each month as a National Sanitation Day. It was intended to promote sanitation across the country by engaging all in cleaning their environment and practicing hygiene to improve sanitation in the country. Sadly, few years down the line, the day has been forgotten by everyone and the fight against poor sanitation has somehow been neglected.

Though one would expect areas where foodstuffs are sold to be clean and tidied up, markets in Ghana lack improved sanitation and hygiene facilities. Sanitary issues in markets are very visible and disturbing such that anyone who walks down market streets will be overwhelmed by all the trash that litters them. Large waste containers are placed

at central points for traders to deposit refuse but they usually overflow with heaps of garbage. They attract flies and produce an unbearable stench that pollutes the air in the entire market. In other markets such as the Ashaiman market, the waste containers are inadequate and located at long distances from the majority of traders; so traders often dump the waste at places of convenience such as along street edges and in gutters. In one unusual situation, I observed that the waste container was not full yet heaps of rubbish were gathered all around it with traders situated very close to the scene.



Figure 1 Overflowing Waste Container at the Ashaiman Market

Compounding these problems is the fact that, pregnant and nursing mothers have to deal with the unbearable situation on a regular basis. Benova, Cumming, and Campbell (2014) found that poor sanitation was associated with higher maternal mortality especially in households that lacked clean water and sanitary environment. Further, poor sanitation contributes to adverse maternal and child health outcomes by causing infections, and a greater risk of preterm birth and anemia (Brooker, Hotez, & Bundy, 2008; Padhi et al., 2015). During the market interviews, all 24 participants mentioned poor sanitation to be the topmost occupational hazard they faced. Below are some views shared by three participants on littering and waste dumps in their work environment. The first comment was shared by a young pregnant trader (looked like a teenager) who sold groundnut paste at the Madina market.

I know you can see it yourself. Our work environment is not clean at all. People dispose refuse anywhere in the market especially at night. Just this morning, I came to meet a bagged garbage under my table so I also pushed into the street.

I proceeded to asking her why she didn't take it to the dump site, she responded:

That garbage isn't mine so why should I be the one to take it to the dump site?  
The owner should have known better!

From her response, I realized that she was a bit agitated by the actions of whoever dumped refuse under her table and didn't want to suffer the consequences alone. As such, she pushed it into the street. The second view about the unsanitary market environment was shared by a nursing mother who sold fresh tomatoes at Kaneshie market. She carried the items on her head to sell because she didn't have a permanent selling space. Also, she

talked about how the dirty environment forced her to always carry the baby on her back in order to prevent any health complications.

I don't have a permanent place to sell so I walk around with the items on my head to sell. I also carry my baby on my back whether I'm selling or not. I feel it is unsafe to let him sit or play around. See, people spit everywhere and the smell from the refuse dump is killing us. I'm used to the environment but I'm very concerned about my baby. I wish I had someone to take care of him at home but there's no one so I bring him along every day to the market. I know he's really suffering in such an environment but he can't complain because he's still a baby (*she laughs*).

Though the participant admitted the unsanitary work conditions, she sounded more worried about the safety of her baby than her own health. I further asked how old her child was since she talked about him in her first response.

My baby will be 7 months in two weeks; she responded.

From the Makola market, I had the opportunity to interview a pregnant trader who had been selling soaps and detergents in the market for over seven years. She appeared to be more comfortable; perhaps because she owned a shop. In her response about the unsanitary condition in the market, she also acknowledged the improvement in the overall sanitary conditions at the Makola market.

The littering in Makola market has reduced and the sanitary conditions here have really improved. I would say that my only concern is about the waste containers. They're inadequate and they get filled up very quickly so sometimes we have to keep the trash by us until the waste containers are emptied. Sometimes, we keep trash by us for days before finally disposing them and this makes work life unbearable.

While some traders seemed comfortable with their present work conditions, others complained badly about their unsanitary work environment and about the fact that they lacked the power to improve their working conditions. While I listened to some of the

helpless talk, I still believed that the situation could be improved and it wasn't a lost struggle. One participant shared her concerns about the unsanitary situation (littered streets) in the Ashaiman market.

My sister, I don't think anything can be done to reduce the filth in our work environment. Do you know how long we've been complaining about this to the government? Just take a look at this smelly gutter right in front of my kiosk. Do you think I'm not concerned? Please, find a better job to do.

I could tell from the response that the participant- a pregnant trader selling palm oil in Ashaiman market- was frustrated and unhappy with the unsanitary situation in her workplace. Market traders in the Ashaiman market have threatened many times to demonstrate against the Ashaiman Municipal Assembly (ASHMA) over poor conditions in the market. In July 2017, the traders issued a one week ultimatum to the Assembly to fix the problem or face their wrath; the ultimatum passed but the market situation remained the same. However, the Assembly promised to embark on a decongestion exercise in the market to ensure free movement of people and goods (Tetteh, 2017).

Gutters choked with filth and producing a pungent smell were common in all four markets. "Plastic bags, off-cuts from fish and meat, fruit peels, and debris clog many of the drainage gutters that run through the markets" (Alfers, 2009). The clogged gutters and stagnant water at certain points become breeding places for mosquitoes and the habitat for cockroaches and mice. Also, desilted solid waste along drainage systems were common in all the markets. Especially in Ashaiman market, it was common to see heaped solid waste along gutters that go back into the gutters when it rains or when animals play with them. Aside from the heaped solid waste making the markets unclean, they also

produce foul smell. Thus, polluting the market environment and making trading activities difficult. Some concerns expressed about the choked and filthy drains were as follows:

I won't blame anybody for these choked gutters because we cause it. Everyone is a culprit even me. We chock them with plastics, decayed crops and sometimes feces. That's why the gutters are always choked and there are flies all over. If you dare try to stop someone from littering the gutters, they will insult you; so we all keep mute about this situation.

The response from another pregnant trader selling "Gari" at the Ashaiman market was very fascinating. She was one of the few traders who took responsibility for their actions and even talked about the repercussions in trying to stop someone from littering the environment. Aside from the unbearable stench these clogged gutters produce, she also mentioned that it contributed to flooding when it rains. She continued.....

You know the situation here already. When it rains the whole market gets flooded and we are left with the option of carrying the items back home. Even the traders under the sheds suffer when it rains because it gets muddy and buyers refuse to go all the way up to buy from them.





Figure 2 Choked Drain at the Ashaiman Market

Moreover, some participants complained about the inadequate and unclean toilet facilities that exacerbated the sanitation issues in markets. They complained the public toilets available were unclean, smelly and in very bad shape and the few clean private toilets were also very expensive to use. In all four markets, the toilet facilities were located either within or close to bus stations. About seven participants from all four markets stated that due to the condition of the public toilets, they were forced to pay for private toilets, which were sometimes unsanitary too. Below was the concerned view of a pregnant mother (selling corn and cassava dough) in Kaneshie market when I inquired about the condition of the toilets in the market.

You should go and see the place by yourself. I'm wondering why the government has still not done anything about it. Aside from the unsanitary condition, the structure is weak with cracks all over. I get scared whenever I'm using it because I feel it might collapse on me. So I pay 50 pesewas to use the flushing toilets.

She sounded displeased and worried about the condition of the toilet facilities and why nothing had been done to improve them. The others said they either used the public toilets or had never attended to nature's call while at their workplace.

My sister, I never use the public toilets; I usually pay more to use the private toilet. Oh, it's not because I'm rich but rather, I can't afford the hospital bills if I get infected again. Trust me, the public toilets shouldn't be used by anyone. They're in the worst condition now.

This pregnant trader from the Madina market (was selling "buff loaf") sounded firm on her decision to not use the public toilets again due to their poor state. For those who had to use the toilet at home before coming to work, a pregnant mother in Makola market who sold salt and different kinds of spices narrated her experience.

The public toilet we have here is unclean and there are worms all over so I stopped using it. I use the toilet at home in the morning before coming to work.

For the nursing mothers, it had become the norm to dispose bagged feces (coming from their babies) at dumpsites or in gutters. This practice exposes both them and other traders to raw excreta which may be detrimental their health. Below is the response of a nursing mother on how she managed the issue of poor toilet facilities. A relatively young nursing mother (who sold assorted biscuits in a tiny kiosk) from the Ashaiman market responded with great surprise when I inquired about how she and her baby coped with the situation.

The place smells so bad that I cover my nose whenever I use the public toilets. When I asked if her baby used the same toilet, she responded in shock by saying:

Eii.... How do you expect me to take my 1 year old baby there? I'm sure the odor alone can kill her. You know this child is too young to use those toilets; I usually bag her feces and throw them away.

Although she didn't state where she disposed them, it was obvious that they were not properly disposed. Aside from the poor state of the toilet facilities, there were also structures built on gutters and used as urinals in the various markets. What makes this situation alarming is the closeness of traders and buyers to them in spite of how detrimental it could be to their health.





Figure 3 Public Urinal at the Ashaiman Market

Keeping a sanitary market environment has been a back and forth issue between market traders and local government /waste management companies. The local government authorities blame the market traders for not cleaning their compounds and not properly disposing off waste whereas the market traders also accuse the waste management companies of not being efficient enough in keeping the market environment clean.

The waste management companies are only interested in our money and not their work. The enthusiasm with which they collect money isn't the same they apply in working. We do pay them to offer cleaning services but they don't do it well. If I show you the rubbish piles behind this wall, you can't breathe or eat again.

From the response given, I could deduce that the fully pregnant trader who sold second-hand clothes at the Ashaiman market sounded disappointed in the work of the waste management companies and local government. All the traders interviewed complained about the unsanitary market environment and how that alone affected their health and that of their little ones. They feel that although the situation is alarming, the authorities involved are not committed to help alleviate it. Although it was difficult to establish that the comments shared by the participants- about the waste management companies- were entirely true, the consistency of their reports and my observations of the sanitary conditions helped confirm their views. The issue of poor sanitation in markets should be given adequate attention as a national issue and not just a market issue.

### **Fire Outbreaks.**

Market fires are one of the leading work hazards faced by market traders in Ghana (Alfers, 2009). For example, the Kumasi central market has suffered a number of fire outbreaks. The first occurred on May 28, 2009 with one more occurring on January 2,

2010. On December 30, 2012, there was another outbreak within which more than 150 shops were burnt down by fire (Twum-Barima, 2014). During the interview sessions, the participants mentioned fires as the second most threatening hazard in their work environment. An Ashaiman trader, a nursing mother (selling taro leaves) who was breastfeeding at the time, told of a fire outbreak she witnessed in January, 2016.

I was right here selling when I heard the sound of a fire service truck so we all rushed to the scene. Nobody knew the exact cause of the fire but I saw that two shops -one was an electrical and the other a provision store-were on fire. Sometimes I get so scared when I see someone cooking or 'illegally' tapping electrical power from the main source because it feels like they're trying to start a fire. Looking at how congested we are in this area, it will be so easy for fire to spread. My sister, God is our protector in this market.

A study by Twum-Barima (2014) on the causes of fire outbreaks in Kumasi central market concluded that the top five causes were; power fluctuations, cooking in the market, overloading of electrical appliances, improper and old electrical wiring system and the illegal tapping of electrical power. More importantly, he highlighted the danger of fire due to congested situations the market. When fire occurs in markets, there are certain factors that contribute to it spreading easily. Some of these factors include wooden roofs, congested environments, poor water distribution systems, inadequate fire protection facilities, and hot or dry weather conditions (Twum-Barima, 2014). As markets are congested it becomes difficult for fire service personnel to access the area when there's a fire outbreak. Sometimes, in order to extinguish a fire, they have to destroy goods and structures worth thousands of Ghanaian Cedis. These losses from burning or physical destruction become a great burden on the traders because they do not have insurance to compensate for their losses. "The public markets also lack fire

extinguishers despite the fact that Ghana National Building Regulations require local government to provide these in all official public markets” (Alfers, 2009).

In Makola market, fire outbreaks have burned down numerous shops and rendered many traders jobless. In 2014 the Makola market experienced a major fire outbreak that burned down 200 shops and rendered more than 2,000 traders jobless (Jafaru, 2014). Jafaru (2014) reported a heartbreaking scene as traders, both men and women, shed tears for the loss of their sources of livelihood. This is what a nursing mother had to say about the fire outbreak that happened in the Makola market in 2014.

The fire outbreaks here happen once in a while but it takes years to recover from the consequences. Although I wasn’t affected by 2014 fire outbreak, I suffered some consequences. Buyers were afraid to buy from us in Makola because of the horrifying fire incident. I had to carry my vegetables back home each day after work till they all perished. I gained no profit from them and even lost some of the capital invested due to the fire outbreak.

Although she wasn’t directly affected by the fire in 2014, her experience showed that she suffered some consequences such as the loss of goods and money. She took a break to sell and then continued:

You should have been here to see those who were affected by the fire; they cried out badly to God. I hope such terrible incidents don’t occur again in Makola because we have suffered enough!

In Kaneshie Market, another nursing mother who sold palm fruit reported how she was gripped with fear and uncertainty after the multiple fire outbreaks at other markets in Accra. According to her, she was emotionally affected by the major fire outbreaks in Kantamanto, Dome and Tudu markets and she hopes they don’t occur again.

We pray that the fire outbreak does not occur here in Kaneshie market because it will be very disastrous, considering the way we are packed here. I was saddened by the fire outbreaks that happened in Kantamanto, Dome and Tudu markets

within a week. The reports of traders crying over their loss and the images of burnt people was so devastating. I don't even want to talk about that now because it brings back sad memories.

Markets are very important because they make-up the consumer economy of Ghana. The uniqueness of Ghanaian markets lie in the fact they trade in all kinds of local and imported items. However, one common problem that these markets face is the issue of fire outbreaks and that problem is always worsened due to congestion. Ghanaian markets are always congested such that "fire hydrants have been obscured by stalls and lanes that fire trucks could use to access the market are converted into stores" (Twum-Barima, 2014). All these factors pile up to cause the kind of destruction that occurs during such outbreaks of fires.

### **Overcrowdedness.**

Urbanization has been one of the unavoidable processes happening in cities since the early twentieth century. "Everywhere, cities are synonymous with modernization, economic development, social progress and cultural innovation" (Ardayfio-Schandorf, Yankson, & Bertrand, 2012). However, some cities are also home to high levels of poverty because the nature of urban growth constrains the development of cities; as the needed resources such as infrastructure and jobs to support the growth are lacking. "Nowhere is the rise of inequality clearer than in urban areas, where wealthy communities coexist alongside, and separate from, slums and informal settlements" (United Nations Population Fund, 2016).

Ghana has experienced a rapid rate of urban migration since the mid-twentieth century. The proportion of the country's population living in cities, has increased from 9



percent in 1931 to 43.8 percent in 2000 (Ardayfio-Schandorf et al., 2012). Urbanization in Ghana, occurs in Accra and two other large cities but the Greater Accra region experiences the fastest urban growth because it's the capital city. "Accra has experienced a rapid rate of growth and it is one of the fastest-growing cities in West Africa" (Ardayfio-Schandorf et al., 2012). It is also the second most populated region in Ghana with approximately 2.5 million people living in it despite having the smallest land area. In Accra, most people are situated in business zones such as marketplaces and so markets are heavily congested and usually surrounded by slums. Also, congestion occurs at market centers due to the conflict of space by users such as drivers, traders, shoppers, and pedestrians (Agyapong & Ojo, 2018). This congestion restricts both motor and pedestrian movement.

Makola is a renowned market place located within the central business district of Accra. Due to its location and function, the area is so heavily congested that pedestrian and vehicular movement is at times difficult and dangerous. Traders have taken over the pedestrian walkway and so pedestrians are forced to walk along roadsides where numerous vehicles are also "jostling for position either to pick up passengers or beat their competitors to a better position in the queue for passengers" (Instifu, 2017). In marketplaces, traffic rules and regulations are not obeyed due to the heavy congestion and so police officers are seen controlling traffic even where traffic lights are working. It is indeed a miracle that head-on collisions are not experienced frequently.

This is what one nursing mother who sold onions and green peppers at the road side (close to the Rawlings park area) had to say about the overcrowdedness at the Makola market.

Sister, the number of people who pass here every day are uncountable. Inasmuch as we all want buyers, sometimes the market gets too crowded and movement is limited. For instance, if I want to buy a baby cereal, I spend 20 minutes in walking to the supermarket down this lane. You should visit Makola during a festive season, I bet you wouldn't have space to conduct your interviews.

Kaneshie market is one of the busiest markets in Accra and said to be the second largest market in the country. Aside from the numerous ongoing trading activities, the market also serves as a bus station for most places in Accra. The various movements and stoppings of buses—popularly known as ‘trotro’—coupled with the large number of people trooping in and out of market contribute to the busy nature of Kaneshie market. The market is overcrowded with traders and street hawkers occupying every space. The haphazard vehicular movements slows down pedestrian movement and worsens the heavy traffic situation. A pregnant trader in the Kaneshie market who owned a stall and sold different types of fabrics talked about how unbearable the overcrowded situation was for her.

Sometimes, the market gets very crowded and noisy to the point that it becomes difficult to walk around. Other times, some sellers take over the space in front of my kiosk to the extent that buyers have to struggle to find a way to even make inquiries about the fabric. And that stresses me out! I'm used to this market situation but as a pregnant woman, my body reacts differently.

This participant did recognize that her condition (being pregnant) influenced how her body reacted to the environment. After heavily breathing for some time, she added:

Enduring such a noisy and crowded condition is difficult for me as a pregnant women because sometimes I need a peaceful and quiet atmosphere to relax in and

this market doesn't help at all. So if you claim your research is about our occupational wellbeing, please do something about the crowded environment.



Figure 4 Overcrowded Nature of the Ashaiman Market

The overcrowdedness is worse in Ashaiman and Madina market due to the influx of motorbikes for commercial use. Commercial motorcycle riders, popularly known as ‘okada’ riders, are taking over the transportation business in Accra where heavy vehicular traffic is common. Many commuters, who hitherto dreaded to use okada as a means of transport, have now resorted to its use to avoid the heavy traffic. Most riders think they are not expected to follow the rules and regulations of commercial vehicle driving system, so they abuse the regulations by crossing red lights, meandering through heavy vehicular traffic, and these acts expose their passengers to great danger (Baafi, 2018).

In both Madina and Ashaiman markets the motorcycle riders compete with ‘trotro’ drivers for space and passengers. Also, there are no passageways for motorcycles and so riders move with pedestrians along roadsides which is very dangerous and has resulted in many fatal accidents. For example, in Ashaiman market, about 300 people, including market traders, the chief of the Ashaiman traditional area and other concerned people embarked on a peaceful demonstration against the carnage on Ashaiman roads by motorbike riders. The demonstrators, displayed placards some of which read, “Ashaiman can’t continue to lose innocent lives through motor accidents”, “Reduce speed in Ashaiman now”, to warn motorcycle riders about the consequences of their reckless behavior (Oforiwaa, 2018). Below was the view of the pregnant mother (who sold second-hand clothes) on the crowded nature of the Ashaiman market area.

Ashaiman market is always crowded with so much noise from car horns and speakers. I always get pushed or hit by people because of limited space. You see, I don’t have my own selling space so I have to carry these second-hand clothes on my head to sell even though I’m pregnant.

Another nursing mother from Madina who sold sachet water reported a similar view.

I'm having a hard time combining motherhood with market work here in Madina market. The crowded environment is not conducive for my 6 months old baby at all and for those of us without shelter, our situation is worse. I have to walk around carrying my baby at my back even as people accidentally hit or squeeze her sometimes.

When I asked what her plans were to make things better, she responded:

Oh, there's nothing I can do to stop this because the market is always busy and crowded. I just hope the situation gets better and my baby doesn't get sick.

The space in all four markets is so limited such that many traders and businesses had to fight over space to conduct their various trading activities.

### **Harassment from Local Government Officials.**

In Ghana, especially in busy places such as markets, decongestion exercises are carried out at least once in a year to clear hawkers and traders off roadsides and footbridges as part of efforts to decongest the city. Harassment from security officials (police, military or task force) is a common act faced by market traders, especially those who sell along roadsides during decongestion exercises. The physical harassment could be seizure or destruction of goods, physical abuse or even an arrest. According to Baiden (2018),

“This exercise is mainly characterized by threats and counter-threats between the sellers and the Metropolitan Security Committee which comprises the police, the military and the AMA taskforce. Down the years, this exercise has proved to be highly ineffective. The traders move from their illegal spots, albeit temporarily only to move back when “the heat cools off”.

Traders and hawkers have taken over the streets and pavements of markets in Ghana. They complain of the lack of space to sell in the main market and also about their inability to secure a stall due to the high cost of rental/purchase. Nevertheless, there's

also a general perception that some traders intentionally stand by roadsides in order to get first contact with buyers. The activities of the hawkers and traders who sell on the streets and pavements other than inside the markets impede the flow of vehicular and human traffic, contribute to the choking of gutters, result in heaps of garbage along major streets of the metropolis, and increase theft (Dzradosi, 2018).

According to Alfors (2009), many of these market traders pay an annual fee to the local government, which gives them the right to trade at unofficial market areas but doesn't prevent the destruction of their goods during decongestion exercises. On the other hand, the Accra Metropolitan Assembly, had stated that the activities of market traders and hawkers who have encroached on pavements, footbridges and other open spaces were contrary to the "AMA hawkers bye-laws of 2011 and section 117(1) of the road traffic regulations, 2012 (L.I. 2180), and are therefore punishable by law" (Dzradosi, 2018; Baiden, 2018). Decongestion exercises were designed to clear hawkers and traders off roadsides and footbridges and to decongest the city. The decongestion exercises in Ghana have always revolved around two factors: humanity and legality. "Legality in the sense that, the activities of the hawkers/traders go contrary to the law and humanity in the sense that every human is entitled to the right to earn a living" (Baiden, 2018). The controversy surrounding this situation makes it difficult to find humane solutions when tackling the issue of decongestion in Ghana.

According to the traders I interviewed, these decongestion exercises do not improve the market environment but rather result in goods destruction and physical harassment. Also, despite the fact that the Metropolitan Assembly serves a notice before

any decongestion exercise occurs, traders were still displeased about these actions. A fully pregnant trader at the Makola market who sold second-hand clothes by the roadside expressed her resentment at the decongestion exercises.

I hate to say this but I feel the authorities are not doing their work well. I mean, they're supposed to create more roads and stalls for us to help decongest the market environment. But they're constantly harassing us for selling along the road thinking that we cause congestion in the market. Just tell me, where do they expect me to sell when there is no space for me to stand in the market? The last time an officer tried to push me, I nearly pushed him back because I'm pregnant and I don't want any complications whatsoever.

According to her, the decongestion exercises were ineffective. The congestion situation will be reduced if only more roads were constructed and subsidized stalls created for them. From the Kaneshie market, another pregnant trader in her mid-twenties who sold smoked fish also expressed her dislike towards the decongestion exercises.

I don't know why they still come to stop us from selling by the roadside. I pay my market tolls every Friday yet they claim I don't have the right to sell here. They just take pleasure in maltreating us!

This pregnant trader from the Kaneshie market seemed upset about why she couldn't sell by roadside after paying the market tolls. If indeed traders who pay an annual fee or market tolls to the local government have the right to trade at unofficial market areas as stated by (Alfers, 2009), then they should not be displaced during decongestion exercises. Though not to discount the significance of the decongestion exercises in reducing traffic, I believe that the issue of market congestion could be solved using other approaches. Lastly, from the Makola market, a nursing mother who sold cooked food also shared her distress about the decongestion exercises.

They don't even care if you're sick or not, they just attack and seize your goods when they find you selling in the streets. Well, I wish I had a sheltered place of



my own but I can't afford the cost so I'm left with selling rice and stew on the streets. It's not my fault.

Considering how multifaceted this situation is, it will be appropriate for a deeper evaluation and assessment of the decongestion exercises as well as the urban planning systems in Ghana to help find the right measures in reducing the overcrowded market environment.

### **Extreme Weather Conditions.**

The impact of weather and climate change on human health is significant and varying (Balbus et al., 2016). For example, extreme weather conditions such as intense heat and cold, heavy rains, and drought threaten human health. Although, everyone gets affected by weather/climate at some point in time, some suffer more effects than others due to factors such as occupation, age, health, where they live, how they go about their daily lives, and income. For instance, people living in tropical areas are more likely to get infected by malaria than those in cold areas because the climate in tropic regions supports the growth and spread of mosquitoes.

According to the United States Environmental Protection Agency (2016) weather and climate can increase the environmental hazards that threaten the health pregnant women and babies. For pregnant mothers, frequent extreme heat can cause dehydration and kidney failure. Further, the dehydration in pregnant women could affect the growth of the unborn baby. However, the hazards of weather and climate change are more severe for children than for adults (United Nations Children's Fund, 2015).

“Children are more vulnerable to vector-borne diseases than adults. They face greater dangers from undernutrition and diarrheal diseases. The physical dangers of extreme weather events – flooding, building collapse, and more – pose unique

threats to young bodies and minds. If, as expected, climate change worsens each of these risks, it is children who will suffer most. Children will also feel these effects longer than adults, making them vital in today's decisions about climate change responses" (United Nations Children's Fund, 2015).

Young children live their lives at a faster rate than adults. As such, anything harmful in the environment is certain to have a comparatively greater impact on them. "For example, young children breathe at twice the rate of adults. In polluted environments, their risk of respiratory infections, such as pneumonia, or conditions such as asthma, is likely to be far higher than for adults" (United Nations Children's Fund, 2015).

Ghana is located on the equator and so the country is warm throughout the year. "Average annual temperatures are around 26°C, with higher temperatures in the north and during the dry season" (United States Agency for International Development, 2017). Daytime temperatures are hot with relatively cool night temperatures (Ghana Meteorological Agency, 2016). Those living (about one-quarter of the population) along the coastal areas like Accra enjoy a year-round tropical climate with two rainy seasons- the first starting in April to July and the other in September to November. The dry season (December to March) brings the dry and dusty Harmattan winds that blow from the Sahara Desert, and is marked by low humidity, hot days and cool nights. However, the climate variability is posing a threat to lives and making people more vulnerable to vector-and waterborne diseases, drought, floods, higher temperatures, and erratic rainfall (United States Agency for International Development, 2017).

All research participants complained badly about how the high temperatures and rainfall affected their health and the smooth running of their businesses. Also, six out the twenty-four participants owned a stall; and even those with stalls still complained about

how heat from the sun's penetrated through the aluminum roofing sheets and even caused more heat. The response given by a pregnant trader (who sold cosmetics on a table top) at the Madina market about the hot temperatures was very informing.

The sun is scorching during the day and it makes my body shake. I also sweat profusely because I feel so much heat around me at noon when the sun is up. The feeling is unbearable and the limited space makes it even worse. I wish I had a standing umbrella to shield this area my sister but unfortunately, I don't so I drink a lot of water to help the situation.

This trader described how her body reacted to the hot temperature and crowded market environment. She further acknowledged how drinking lots of water helped to alleviate the situation. Back to the Ashaiman market, this is what the young nursing mother who sold taro leaves had to say about how she managed the hot weather condition with her baby.

The heat from the sun makes my baby cry often but I can't help the situation. I have to move around in order to sell. I can't quit my job and stay at home with her because I use the money I get from my daily sales to take good care of her.

Aside from the hot weather, the participants also talked about how rainfall affected their work. Some talked about the muddy market area while others expressed their worry over flooded items during rainy seasons. From the Kaneshie market, two nursing traders narrated their experience of rainy seasons.

There is trouble when it rains in Kaneshie market because we get soaked up and some parts of the market gets flooded. It's hard for me especially to sell during the rainy season because my movement is restrained. Last year in May, we experienced the worse flood ever as people, goods and even big cars got displaced by the water.

This report was given by the nursing mother who sold palm fruits and also gave an account of the fires. She sounded very worried about the rains and how they affected her

work. Also from Kaneshie market, a nursing mother (sold okra and jute leaves) shared her view on how the rain affected her work.

When it rains in here in Kaneshie, the market becomes muddy because most areas are not tarred. This area especially becomes slippery and a lot of buyers do not come up here. My major problem now is how my baby will survive the situation when it starts raining.

### **Excessive Workloads.**

Traditionally, women in Ghana are responsible for the overall upkeep of the home by performing activities such as cleaning, bearing and raising children, as well as taking care of the extended family (Nti, Inkumsah, & Fleischer, 1999). Apart from being mothers and household keepers they also play a vital role in the labor market especially as the major players in food chain activities. One of the most mentioned work hazards was their excessive workloads. The participants talked about their stressful workloads which usually resulted in fatigue and other health issues. A common cause of health challenges at the workplace is excessive workload. Heavy workloads could be harmful to the physical, psychological and overall well-being of workers as well as the stability of their family relationships.

However, “the beneficial effects of employment on women’s status are contingent on the several characteristics of the work that they perform” such as the workload, work environment, the type of occupation, income, work hours and others (Kishor & Neitzel, 1996). For example, heavy workloads are likely to exert substantial stress on working mothers unless they are able to shift some of their duties onto others (Nti et al., 1999). In all the four markets, traders either carried heavy items on their heads or had to stand for several hours in extreme weather conditions to perform trading activities. From the

Madina market, this is what a nursing mother of two children (5years and 9 months old) had to say about the nature of her work.

Eii.... the work I do here is very strenuous. I have to bend to pick up yams for buyers and affects my waist badly. I have to bend more than ten times when dealing with difficult buyers because they reject the selection I make for them. I also do not like it when they make their own selection because they end up scattering the arrangements. On busy market days, I have to drag sacks of yam from the roadside to this place because there's nobody to help carry them.

A pregnant trader from the Madina market who sold "buff loaf" (and also shared her view on the unsanitary toilet facilities) talked about her stressful daily activities.

I have to wake up at dawn each day to here by 6:00am. I sell "buff loaf" (regular snack in Ghana) and this is usually purchased by the early morning travelers; so I need to get to the bus station by 6:00am to sell. The load I carry on my head is so heavy and I feel some pains in my abdomen whilst walking. I get tired by noon but I still sell until everything has been bought.

Workers face diverse hazards due to their work activities and the related environment. Maternal market traders are exposed to various work hazards ranging from physical harassment to environmental problems that pose risks to their health, wellbeing and businesses. The maternal traders mentioned a lot of workplace hazards that were detrimental to their health but the most commonly mentioned hazards in their responses were poor sanitation, overcrowdedness, fire outbreaks, harassment from local officials, extreme weather conditions, and excessive workloads.



Figure 5 Yam sellers at the Makola Market

Source: International Institute of Tropical Agriculture

### Occupational Health Challenges of Maternal Market Traders

At present, women, especially pregnant and nursing mothers work more outside the home than in the past (Women's Bureau, 2016). Most of them serve exclusively as breadwinners for their married-couple families. While mothers make significant additions to their family's income in married couple families, the high proportion of mother-only families around the world also accentuates mothers' critical role as both economic and caregiving providers (U.S. Bureau of Labor Statistics, 2015). "While their role in the paid labor force has changed (increased), mothers continue to carry a disproportionate share of the unpaid household and caregiving responsibilities" (Women's Bureau, 2016). They still lack sufficient workplace support (such as protected paid parental leave, quality and affordable child care, and earned sick days) and so face tremendous challenges that prevent them from attaining economic security for themselves and their families.

Pregnant and postpartum women undergo great physiological and psychological changes in their immune system; so working as either a pregnant or a breastfeeding mother makes one more vulnerable to the health impacts of occupational hazards (Feinberg & Kelley, 1998; Belin, Zamparutti, Tull, Hernandez, & Graveling, 2011; Public Health Institute, 2016b). Likewise, dealing with the stress of combining household chores with workplace activities can be overwhelming for mothers despite the support they receive at home. Although on average, women engage in less physically difficult jobs, many perform repetitive tasks that are associated with specific health risks.

From the first part of the results section, it was concluded that maternal market traders in Ghana were exposed to various work hazards that could be harmful to their

health, wellbeing and businesses. Just like all other women in the informal sector without paid maternity leave, maternal market traders work tirelessly to earn a living; sometimes disregarding their health and that of their babies. Women's work and status differs from one country to another. According to Oppong and Abu (1987), women's role in Ghana can be grouped under seven sections: maternal, domestic, conjugal, related to kin, occupational, individual, and related to the community. Women in Ghana therefore play a major role at home as caregivers, a role as workers/ income earners outside the home, and a role in the maintenance of the extended family and community. Thus the work women do and their reproductive role exert substantial stress on them.

Generally, the influence of work on maternal health. However, "poor working conditions can contribute to a range of health issues for women associated with pregnancy and the period after giving birth, including tiredness and fatigue, pain and discomfort, back problems, postural problems, swollen legs, nausea, blood pressure changes and stress" (Belin et al., 2011). The health challenges reported by the participants were grouped under physical and psychosocial health challenges. Under physical health challenges, they reported musculoskeletal conditions, infant death, miscarriage, dehydration, dizziness, fatigue, headaches, malaria, diarrhea, cholera and vaginal infection. For psychosocial health challenges, worry, fear, confusion, unhappiness, loss of social relationships, low support and care from family and financial insecurity were recorded. The women's accounts of their health challenges were intertwined in the descriptions of their daily activities in the market place. This showed their understanding of how their health was imbedded in the social and material



conditions of their lives. What is so powerful about the themes/quotations is that they work to humanize the problem rather than state the issues as statistics.

### Physical Health Challenges

Many women work while they are pregnant, and also many return to work while they are still breastfeeding. Pregnant and nursing mothers are more vulnerable to occupational health risks which could damage their health and that of their unborn or newborn babies due to the close physiological and emotional link between them and their children (European Commission, 2000). However, not much is done to find the significant risks to the health or safety of new or expectant mothers at the workplace.

Several studies have explored the connection between work and pregnancy/maternity outcomes but the outcomes are often conflicting. Such conflicting results could be explained by the different working conditions of the population, and the lack of a standard definition for occupational hazards and pregnancy outcomes.

“ Moreover, the rate of heavy physical work and its health consequences for pregnancy may have been underestimated, since the study populations were often limited only to pregnant women with formal employment” (Hanke, Kalinka, Makowiec-Dabroska, & Sobala, 1999, p. 200). Generally, physically demanding work conditions such as heavy lifting and long working hours, is considered to have significant effect on the health of new and expectant mothers (Pivarnik, 1998; Hanke et al, 1999). But not all mothers are affected in the same way, and the related health risks vary with the nature of work, working conditions and the individual characteristics.

### **I could walk till the end of the day.**

The majority of the participants complained about their heavy workloads. They revealed that their double work duties as mothers and market traders were overwhelming and that usually resulted in fatigue and dizziness. “Generally, however, both mental and physical fatigue increases during pregnancy and in the postnatal period due to the various physiological and other changes taking place” (European Commission, 2000). Below are some relevant responses gathered from respondents regarding their work-related fatigue and dizziness. From the Ashaiman market, a pregnant mother (who sold “gari”) complained about the increased tiredness and dizziness she was facing.

I feel so tired and dizzy after walking for just an hour. When I wasn’t pregnant, I could walk till the end of the day but things have changed. I get too tired with the least work I do now because of my pregnancy.

Her response highlights the influence of workload on pregnancy by causing increased tiredness and dizziness. Another pregnant trader (groundnut paste seller) at the Madina market explained how the workload increases fatigue in her body.

I beg buyers to buy my groundnut paste all the time.

Out of surprise, I asked why she did that. She laughed first, and replied;

I do that because I usually go home after noon and I need some money before I leave. When I beg the buyers, they usually have pity on me as a pregnant woman and buy from me. You know, it’s so hard for me work for long hours like I used to because I easily get tired and upset over little things.

### **My body pain is worse when I wake up in the morning.**

Aside from fatigue and dizziness, the traders also experienced various forms of musculoskeletal conditions due to their occupational roles. The most frequently reported bodily pains were neck, back, and abdominal pains. Neck and back pains were

experienced mainly by traders who carried items on their heads to sell. Others, especially nursing mothers also reported back pain from long hours of carrying their babies on their back. Also, all the pregnant traders complained of having pains (some mild and others intensive) in their abdomen which they believed was as a result of their daily work activities. In all, majority of the participants reported general body pains from lifting, moving and carrying heavy goods.

My body pain is worse when I wake up in the morning. I feel pains from my neck down to my knees. I take Ibuprofen early in the morning to reduce the pains before going to the market with my child.

When I asked why she doesn't take a break from work sometimes she responded,

No, I cannot take a break from work because I don't have any man to support me financially so I have to work to take care to myself and my baby.

This report was given by a nursing mother who sold fresh tomatoes at the Kaneshie market. The strenuous work activities cause market women to develop bodily pains which lead to severe forms of musculoskeletal diseases if left untreated. For example, another nursing mother from Ashaiman market (sold cassava and plantain in the open) complained of being diagnosed with osteoarthritis due to repetitive movements and heavy lifting.

My left knee hurts so badly and it becomes stiff when I wake up in the morning or sit for a long time. At first, it wasn't this bad but with time the pain and stiffness increased so I had to go to the hospital.

I further asked her what the problem was when she went to the hospital. She busted out with laughter and said,

I didn't go to school so I can't mention the name of the disease. All I remember was that the doctor said I had "o-s-t-i-t-a-i-s-i-s".

She busted out with laughter again and asked me to help her pronounce the word. So I did and she confirmed that it was osteoarthritis. At the time I found her, she was temporarily occupying her friends' space to sell her items. According to her, the space belonged to a friend who had travelled to another town for a funeral. So on regular days, she either sells close to the roadside or carries the food stuff on her head to sell.

### **Headaches have become a part of me now.**

Headaches, dehydration, and heat rash were mentioned as part of the most occurring health challenges faced by the participants as result of their excessive workloads and high temperatures. Generally, “higher temperatures, and to a lesser degree, lower barometric pressure, contribute to severe headaches” (Mukamal, Wellenius, Suh, & Mittleman, 2009). Also, weather changes may cause imbalances in brain chemicals such as serotonin, which can prompt a migraine or may worsen a headache caused by other triggers (Levy, Strassman, & Burstein, 2009; Swanson, 2018). Hence, the environment around us affects our health and, in terms of headaches, may be impacting many people on a daily basis especially those who are directly exposed to it. Also, extreme weather conditions can increase the environmental hazards that threaten the health pregnant women and babies. For example, frequent extreme heat can cause dehydration and kidney failure in pregnant women. Further, the dehydration in pregnant women could also affect the growth of the unborn baby (Environmental Protection Agency, 2016). From the Madina market, a pregnant trader who was found selling different brands of cosmetics on a table top spoke about her struggle with dehydration.

I urinate and sweat more frequently than usual due to the hot weather. Whenever the sun rises, I feel very thirsty even to the extent that after drinking two sachets of water, I still feel thirsty.

It was evident that this particular trader faced many health issues due to the hot weather. She also complained of experiencing series of headaches which were often accompanied by nausea.

Headaches have become a part of me now. No matter what I do, I still have headaches. Whether I sit, stand or sleep I experience headaches. The worst part is when the sun is up; it feels as if my head is constantly colliding with something. My headaches are always accompanied by nausea and dizziness sometimes.

One could imagine how hard it was for her to endure the hot weather and its accompanying effects every day. It was also obvious that her work in the market helped her to make ends meet and so quitting her job will be difficult.

Further, heat rash was another common health challenge mentioned by the participants. Both the children and adults experienced this skin disease. In hot, humid weather conditions, people easily get heat rash because their pores become blocked and sweat can't escape. Heat rash looks like dots or tiny pimples that appear on the head, neck, and shoulders of mostly young children. The rash areas can get worsened by clothing or scratching, and in rare cases, a major skin infection may develop. Among all those who mentioned heat rash as a health challenge, the issue of skin itchiness was also reported. They reported how itchy their skin felt especially during the day when the sun was up. From the Makola market, a nursing mother selling onions and green peppers by the roadside gave an account of heat rash her baby experienced. Before she talked about the heat rash, I had already noticed it on the baby's neck and it was severe.

What I know is that, heat rash is common with children but my child's rash is severe because of the heat. As you can see, she keeps touching her neck because it is very itchy and I don't know what to do now. I have tried many creams but it doesn't get any better because of the hot weather.

Out of curiosity I asked if she has ever experienced heat rash and this was her response,

Oh yes! I have many times. Who hasn't developed heat rash in this market before? The heat from the sun makes you sweat so you definitely will; at least one in a while.

**I was busily selling and not knowing my baby was laying half-dead.**

The health of pregnant women, breastfeeding mothers and their infants are distinctively affected by weather and climate conditions. For instance, “pregnant women are at particular risk of ‘over-heating’ (too high a core body temperature) because of the hormonal situation at all stages of pregnancy” (Rylander, Odland, & Sandanger, 2013). Although most women have healthy pregnancies and babies, their exposures to extreme weather conditions may lead to adverse pregnancy and newborn health outcomes such as dehydration, preterm birth and neonatal death (Public Health Institute, 2016b). Thus, the effects of direct extreme weather conditions such as high heat exposure on maternal health could will lead to severe health risks for both mothers and children (Rylander et al., 2013; Public Health Institute, 2016b).

In low and middle-income countries such as Ghana, pregnant women and nursing mothers are likely to be active in physical work (paid work or work in the household) until shortly before the delivery or right after delivery (Poursafa & Kelishadi, 2011). However, during working hours, many pregnant women and nursing mothers are unable to make these adjustments as they perform hard physical labor in the sun or places with no air-conditioning (Kjellstrom, 2009). As a result, many such women are at the risk of

suffering from heat-damaging effects due to their physically demanding labor and their failure to care for their health.

Only six out of the twenty four maternal traders I interviewed owned stalls at the market. The remaining eighteen either carried items on their heads to sell or were temporarily lodging by other traders in an open space to conduct trading activities. Thus, approximately eighteen maternal traders were exposed to prolonged heat from the sun for more than 8 hours in a day- with an average of 50 hours of direct sunshine in a week. Due to the high temperatures, even those located in sheltered areas complained of the extremely hot weather. A very unfortunate incident of a baby's death was reported by a nursing mother from Kaneshie who sold okra and jute leaves was very striking. This was how she narrated the loss of her nearly 6 months old baby in early 2016.

I don't know what happened to my baby. As usual, I breastfed him and laid him under a table to sleep so I could also do some selling. But this time around, it took him so long to wake up so I had to check on him. Upon checking up, I realized my baby was sweating and wasn't breathing well so I rushed him to the hospital. The doctor reported that my baby had a severe fever and sadly, we lost him that evening.

Aww Fiifi...I'm sorry for being such a careless mother...

She wails and continues to talk...

The worst part of the incident was that I was busily selling and not knowing my baby was laying half-dead

I had to sit down with her and console her because she began to curse herself and that attracted some attention. This story really struck me and for the rest of the day, I couldn't conduct any more interviews. The adverse effects of extreme temperatures on maternal

health is tangible in marketplaces. Although not many reports are made on such critical health outcomes, market traders suffer the consequences day-in and day-out.

**That led to a miscarriage and I lost my baby.**

As stated earlier, many pregnant and postpartum women especially in developing countries are active in physical work that is either paid or unpaid work. For pregnant women, the harm of physical activity during the final stages of the pregnancy is usually not connected with premature delivery, miscarriage or intrauterine growth restriction (IUGR), but recent studies point out a possible connection (Poursafa & Kelishadi, 2011). A study by Pivarnik (1998) pointed out that stressful situations during pregnancy, may cause preterm births by reducing the length of gestation. Wong et al. (2010) indicated that compared with women employed in sedentary jobs, women in physically demanding jobs are at a higher risk of adverse reproductive outcomes such as miscarriage. Aside from the adverse effects of physically demanding work on pregnancies, climate change and extreme weather conditions can also affect pregnant women and newborn children (Rylander et al., 2013).

From the Kaneshie market, a pregnant trader (sold corn-dough) gave an account of how she lost her first pregnancy.

I don't know what caused the bleeding, my sister. After selling the first batch of corn dough one Saturday, I went to my supplier to fill up my basin. Upon reaching there, she asked why I was bleeding. It came as a surprise to me because I wasn't even aware I was bleeding. That led to a miscarriage and I lost my baby.

She paused for some time and continued,

Hmm... My husband still blames me for that miscarriage. Before the unfortunate incident, I remember experiencing pains in my abdomen but I didn't pay much attention to it because I thought it was normal with being pregnant.



I further asked her if she knew what caused the miscarriage and she said;

I don't know what caused it but I think I was stressed with work during my first pregnancy so I'm very careful now.

Indeed, she sounded very confused and sad about the unfortunate incident that occurred.

Although, there's no definite cause for miscarriages, the performance of strenuous activities could be an underlying factor when it comes to pregnancy related complications (Wong et al, 2010).

**I thought sleeping in a mosquito net at night could prevent malaria.**

The poor sanitary environment in market places has been a major cause of vector-borne diseases like malaria, diarrhea and cholera. The choked drainage systems and the lack of proper waste disposal and recycling systems are major springs of malaria (the leading cause of death for children under five) as well as diarrhea (killing thousands people in a year) in Accra (UNICEF-Ghana, 2013). Aside from unsanitary conditions, climate change is known to increase the threat and severity of diarrheal diseases, and it has also been indicated that diarrhea may increase with each degree of increase in environmental temperature above normal (Checkley et al., 2000). In addition, increased temperatures are predicted to increase the transmission and spreading of malaria by increasing mosquito density and biting frequency (Costello et al., 2009). Hence, the issue of poor sanitation and high temperatures compound in marketplaces to cause diarrhea, malaria and cholera. Malaria, diarrhea, cholera, and vaginal infection were the main health challenges the participants experienced due to the unsanitary work environment

and increased temperatures. From the Madina market, a nursing mother who sold baby diapers as well as working as a seamstress shared her thought on malaria.

The other day, some people came from the health service to give us free mosquito nets. I've been sleeping in mine but I still get malaria from time to time. I thought sleeping in a mosquito net at night could prevent malaria. Or am I wrong? (*She laughs*).

This comment was very interesting considering that her knowledge on malaria was not adequate. She thought sleeping in a mosquito net could prevent her from acquiring malaria whether or not she gets mosquito bites at work. Another nursing mother from Ashaiman (sold assorted biscuits) complained of vaginal itching which she claimed could be as a result of the unsanitary toilet facilities.

I'm shy to talk about this but you're a woman like me so you'd understand. My private part itches badly after using the toilet here. The heat coming from the toilet stool causes it; I'm sure. Hmmm...I will go to Crystal (name of a medical center nearby) if the itching persists.

Aside from this nursing mother from the Ashaiman market, another pregnant trader from the Madina market (was selling "buff loaf") stopped using the public toilets because she claimed acquiring a vaginal infection in the past. Unsanitary conditions are prevalent across all markets in Accra. While the majority people may act unconcerned about the adverse health effects of poor sanitation, the health of Ghanaians especially market traders, is deteriorating day-in and day-out due to these poor conditions. Diarrhea and cholera are everyday diseases faced by market traders in Accra. Fourteen participants reported experiencing frequent diarrhea with or without vomiting in the past. Also, two out of the fourteen participants developed cholera in the long run. Although there was no

definite cause for these diseases, some believed it was a result of eating or drinking contaminated food.

Psychosocial health challenges. Work-related challenges also affect the psychosocial health of workers badly (World Health Organization, 2000). However, workers' physical health is given more attention than their psychosocial health. The reason being that employees, employers, and firms lag behind in the understanding and recognition of the pervasiveness, management and influence of psychosocial health problems (European Agency for Safety and Health at Work, 2007; Xu, Tian, Wang, & Lu, 2018). Considering that the workplace environment can have a significant impact on workers' psychosocial well-being, it becomes very important to ensure good mental and social health at the workplace to promote well-being and production (World Health Organization, 2000).

Aside from the physical health challenges, participants also shared a good amount of information about their experiences with the psychosocial health challenges they faced due to the conflict between their occupational and household duties, the uncooperative relationship with the government officials/traders, low support at home, and other stress-related issues. Since there are no job controls in their workplace, the traders work more than the average work hours assigned to workers in the formal economy. As such, their psychological stress are more extreme.

**This makes me worry a lot about health especially now that I'm pregnant.**

Overall, the issue of stress stood out in most of the conversations. However, this wasn't unexpected considering the exhausting workloads and poor environmental

conditions these maternal traders endured. The participants reported feelings of psychological and emotional distress due to their workload and also reported a reduction in their overall levels of well-being. In some instances, stress helps you stay focused, energetic, and alert; but if stress levels stay high far longer than needed, they can take a toll on your health. There are many emotional and mental disorders that have been linked to stress including depression, anxiety, worry, loneliness, isolation, and others.

Working in the market is very exhausting. This makes me worry a lot about health especially now that I'm pregnant. I also get frequent headaches and sleeplessness. I don't know these challenges are caused by the pregnancy or I just overwork myself.

This report given by a young pregnant woman from the Madina market (sold groundnut paste) shows how her work overload combined with pregnancy to cause both mental and physical health issues. Another trader from Ashaiman market (sold second-hand clothes) talked about the emotional and mental issues she faced due to the struggles she endures at work.

Being pregnant and doing this kind of job isn't easy my sister. The loud car horns, harassment from the local officials and the sun....it's just an irritating experience. There are also people moving to and fro and it feels like I'm suffocating. And as I said earlier, I don't have my own selling space so I stand here by the road side.

The conditions and nature of her work caused her to feel upset and pressured. She also talked about how difficult it was for her to work in the market as pregnant mother.

**I don't know why I always feel like something bad is going to happen to me.**

Many other traders shared their experiences of constant worry, anxiety, fear and depression due to poor sales, family crises and even decongestion exercises carried out by the government officials. However, in an exceptional case, a nursing mother from the

Madina market (sold sachet water) narrated her constant feeling of anxiety and fear which she sadly didn't know the cause.

I usually wake up with heart palpitations. Other times, I get so much afraid of what might happen to my child or me. I don't know why I always feel like something bad is going to happen to me.

Her situation was very worrying as she also talked about not having a house to live in. According to her, she lived in an uncompleted building as the caretaker. Although she didn't know the reason for her constant worry, it was quite evident that poverty and other work issues could be the cause. Also, the nursing mother from Ashaiman market who was diagnosed of osteoarthritis expressed her constant worry about the disease.

Naturally, I like laughing but that doesn't mean I don't get worried about my health; I do! I'm always thinking of what might happen to me next now that my left knee hurts so badly. I'm wondering if my knee will ever get better with this strenuous job or if I'll eventually be forced to quit working in the market.

I asked her if she'll quit working in the market if she had to and this was her response.

No, how will I feed my family if I stop selling? It's not as easy as you think my sister. I've never been to school like you've so this is the only job available for me to do.

Despite her worry and anxiety over the disease, she was unwilling to stop working; even if that could promote the healing process. Her job was her source of living so quitting may be detrimental to herself and her family. She also stated how the lack of education limited her to working at the market.

**My only problem is that the economy is hard! I haven't sold anything since morning.**

Aside from the general stress, other challenges such as constant worry, fear, and unhappiness were also reported. Other participants complained bitterly about the low

sales or purchases from buyers. They believed that the crisis in the national economy trickled down to affect their businesses by first, raising the prices of goods and second, reducing the purchasing power (the financial ability to buy products and services) of buyers. The pregnant trader selling soap and other kinds of detergents at the Makola market talked about the drop in her weekly sales.

I think I'm in a fortunate situation and don't face many difficult situations as compared to the other traders by the roadside. As for them, they're really suffering. Before I moved into this place, I used to sell by the road side and so I'm aware of some challenges they could face. My only problem is that the economy is hard! I haven't sold anything since morning.

While some expressed anger and frustration towards the current economic hardships, another pregnant trader from the Ashaiman market expressed her fear over what might happen if she's unable to pay her creditors.

As for me, my major fear is about my debt. Nowadays, people don't buy from us; they complain that they don't have money too. So I get worried about how I'm going to settle my debt. My creditor has a wild behavior so I'm afraid she might seize the goods or fight me in public. That will be such a shame!

Indeed, the decrease in purchasing affected traders in many ways. While some expressed anger and dislike towards it, others were left in fear thinking about how to settle their debts and avoid being disgraced.

### **I think I'm not a good mother to my children.**

Another significant factor that contributed to the psychosocial stress of the traders was family and social conflicts. In traditional Ghanaian culture, women are expected to keep their homes in 'order' irrespective of their work duties. They are expected to make sure everyone in their family is well catered for and so "failure to do so creates tension in the home and a major source of worry for women" (Wrigley-Asante, 2013). Higher

workloads were found to be associated with higher levels of family conflicts and the negative effects were usually severe when expectations at work interfered with the worker's ability to fulfill expectations at home (Ilies et al., 2007). The social issues reported were as a result of participants' failure to fulfill expectations at home which resulted in family misunderstandings, conflicts, self-blaming and loss of relationships with important others, including family, friends and acquaintances. The nursing mother from Makola market (sold vegetables) reported some worries as she was uncertain about how her older kids coped in her absence. She also wasn't sure of her status as a good mother.

I spend most of the time in the market selling and by the time I get home, they are already sleeping. I don't know what to do make the situation better. My mother-in-law told my husband the other time that I'm not good mother because I spend very little time at home even on weekends. Yes, they're right, I think I'm not a good mother to my children. But unfortunately, I don't have a choice!

The regret and pain that shows on the faces of these traders as they speak of their personal worries is heartbreaking. They are torn between their family and their work. However, they are left with no option other than to choose their work because they need to work in order to take care of their families.

### **He called me irresponsible.**

As discussed earlier, higher workloads have the propensity to cause higher levels of family conflict by increasing stress and interfering with workers' duties at home. Thus, an increase in a worker's workload is predictive of an increase in aggressive and argumentative behaviors in the worker's home environment, resulting in family conflict and decreased family stability. From the Madina market, a nursing mother mother of two

children (5years and 9 months old) also talked about some family conflicts she faced due to her work.

We always try to solve our differences before the next day whenever there's a misunderstanding between me and my husband. But last month, we had a misunderstanding and he called me irresponsible because I wasn't available to take care of my oldest child when he returned sick from school. I understand it was a bad situation and it shouldn't happen again but I was at work! How would I know that my son was sick? It's so annoying how he expects me to know everything and do everything. He called me an irresponsible mother as if I'm the only person in charge of our kids!

From observation, I realized that she was really disturbed about her family conflicts and so didn't seem worried about sharing it with a stranger. She also sounded upset over the blame she received from her husband despite the multifaceted roles she performed as a mother, caretaker and a worker. A pregnant trader in the Kaneshie market (sold different types of fabric) also talked how her work affected her social interactions.

I spend most of the time here in the market and so I hardly even have time to talk to my neighbors. I don't work on Sundays but I'm usually indoors resting or cooking. Not only that, I rarely visit my parents at Nungua (name of a town in Accra) and they also complain about my busy schedules. I think my work has badly affected my relations. Hmmm...

The workloads of these market women had a great toll on their social wellbeing by interfering and limiting their ability to maintain good social interaction. Compounding these social issues is the need to provide materially for their children and support their families while still performing their duties as mothers and wives in the household. The performance of multiple roles (maternal and occupational) by these women causes a lot of pressure and stress which then might affect their physical and mental health and that of their families. Lastly, the women's accounts of their health challenges showed their understanding of how their health was imbedded in the social and material demands of



their lives and how they had little or no power over their daily activities both at home and the market place.

## CHAPTER 5

### DISCUSSION

This study employed a qualitative research method (face-to-face interviews and participant observation) to investigate the occupational health of maternal market traders. An occupation is an indispensable part of human life and development; workers derive skills, social status and relationships, health, well-being, and justice from participating in gainful employment (Townsend & Canadian Association of Occupational Therapists, 1997). It could also be argued that the work we do could have a negative important influence on our health and well-being (Harris et al., 1992; Law et al., 1998; Alferts, 2009; World Health Organization, 2018a). Hence, the connection between workers and their occupation is not direct but a continuously interacting relationship that influences the way in which workers perform their daily tasks and activities. The performance, in turn, is believed to influence health and well-being (Law et al., 1998).

According to the International Labor Organization (2002), the informal economy employs the highest labor force and more than 90% of Micro and Small Enterprises (MSEs) worldwide. While the reason behind the high employment in the informal economy is uncertain, there is a general perception that people voluntarily engage in informal activities to deliberately avoid taxation and governmental control. Also, other people (especially the informal workers themselves) believe that the lack of employment opportunities in the formal economy and the restrictions that accompany the formal economy are what compel workers to work in the informal sector. Thus, the various demands and the failure of the formal sector to create jobs in necessary numbers is what

drives many into the informal sector (Abraham et al., 2017). Both sectors (formal and informal) of work are capable of supporting the health and wellbeing of workers; however, informal economy workers are more vulnerable to experiencing occupational health risks and challenges due to the poor infrastructure, lack of laws and policies to protect workers, as well as the poorly developed physical markets that characterize the informal economy (Swedish International Development Cooperation Agency, 2004).

Globally, the informal economy employs a significant number of females; that is between 60 to 80% of the total population (International Labor Organization, 2016). Such huge female participation in the informal sector is considered very significant worldwide due to the impact it has on the quality of life of women and their families along with serving as a measure for the progress towards gender quality (Amoateng et al., 2004; Abraham et al., 2017). Aside from the greater susceptibility to health risks and challenges that all workers in the informal economy face, females in particular are concentrated in areas of work that are unprotected, badly paid, and with high threats of occupational hazards (Chant & Pedwell, 2008; Heintz & Valodia, 2008; Alfes, 2009). The United Nations (1997) accounts for women's work in the informal sector as the "fallback position for women who are excluded from paid employment especially in those areas where cultural norms bar them from work outside the home or where because of conflict with household responsibilities, they cannot undertake regular employee working hours".

This account given by the United Nations is relatable to the situation of women in Ghana where over 90% of women are employed in the informal economy (Abraham et al., 2017). The entrenched pro-male nature of the Ghanaian culture sabotages the

development and economic liberation of women in many ways (Offei-Aboagye, 1994; Sossou, 2006). In Ghana, some cultural practices limit women and girls' ability to achieve their goals and live to their full potential. Cultural practices such as female genital mutilation (FGM), trokosi system, betrothal marriages and widowhood rites contribute to forms of violence and human rights abuse against women in Ghana. In general, women are considered the weaker sex who do not possess workplace skills; as a consequence, women (especially in rural Ghana) are limited to caring and nurturing roles at home. Men, on the other hand, are viewed as the breadwinners or heads of the family, meaning jobs held by men are seen as historically and economically valuable (Sossou, 2006).

Although federal policies and social measures championed by women empowerment groups have been rolled out to bridge this gender disparity, the majority of women are still treated unfairly in work environments, and sabotaged in their aspirations for political power. They are the victims of unfair cultural dictates which put them second to men. It is however not surprising that Ghana's formal economy is categorized as male-dominated because women are not receiving the same degree of education and formal sector preparation as men for reasons ranging from cultural to institutional (Sackey, 2005; Abraham et al., 2017).

This study focused on investigating the occupational health of one vital group in the informal economy of Ghana: pregnant and breastfeeding market traders. Generally, this group of workers are more vulnerable to occupational health risks (and health risks in general) due to the hormonal and psychological changes that occur in their bodies

(European Commission, 2000; Rylander et al., 2013; Feinberg & Kelley, 1998; Sappenfield et al., 2013). Subsequently, due to the close physiological and emotional link between mothers and their babies, the health challenges of mothers (both pregnant and breastfeeding) could also have a severe bearing on the health of their unborn and new babies (European Commission, 2000; World Health Organization, 2009a). Most workers are in their reproductive years and as such, both pregnant and nursing mothers are common in workplaces. Studies on maternal occupational health are therefore essential considering the prevalence of mothers at workplaces and the multidimensional influence occupation has on the health of mothers and their children.

Before the participants in this study reported their occupational health challenges, they were first asked to identify some workplace hazards which they believed had an influence on their health. It may be argued that the lack of scientific/medical examinations to prove the connection between the identified hazards and participants' health crisis makes accepting and drawing conclusions problematic. Nevertheless, while medical/scientific approaches are rapidly developing and improving research through empirical evidence, there has been several gaps in its processes and outcomes. Also, in many ways, scientific methods may be influenced by the subjective beliefs and knowledge of the researcher. Although social research outcomes are also not void of errors, they have been applied in numerous ways to understand social phenomena (through direct observation, communication with participants, and quantifiable evidence) and to provide accurate clarifications to social issues.

The participants mentioned a lot of workplace hazards which they believed were detrimental to their health and that of their children. But the most frequently reported hazards in their responses were poor sanitation, overcrowdedness, fire outbreaks, harassment by local government officials, extreme weather conditions, and excessive workload. Also, certain health hazards in the market which were both environmental and behavioral but were not mentioned by participants were recorded through observation. For instance, the act of sneezing and coughing without covering up was very common at all four the marketplaces. Also, the prevalence of rodents and flies especially around areas where the traders sold were recorded as likely workplace hazards. Similar to the research by Alfery (2009), participants' accounts of their workplace hazards revealed their understanding of how their health was imbedded in the environmental conditions of their work environment. For instance, two-thirds of the respondents identified some work hazards as possible causes of their health challenges without being asked. This also shows their awareness of the possible dangers of these work hazards.

Notwithstanding the possible negative effects of workplace hazards on workers' health, it should be recognized that working in general produces an indispensable support to promote the health and wellbeing of workers (Harris et al., 1992; Townsend & Canadian Association of Occupational Therapists, 1997; Law et al., 1998; Idowu et al., 2014). Thus, in this research context, working in markets will not necessarily increase the risks of participants' health. However, working under stressful and hazardous conditions could have adverse effects on maternal market traders' health (Avotri & Walters, 1999; Alfery, 2009; Olurinola et al., 2014; Ola-David, 2014; Idowu et al., 2014).

Based on the responses gathered, the health challenges reported by the participants were grouped under physical and psychosocial health challenges. Like the findings of Avotri and Walters (1999), this study found that psychosocial health challenges featured as much as the physical health challenges. Work-related challenges have the potential to badly affect an individual's psychosocial and physical health equally (European Agency for Safety and Health at Work, 2007; World Health Organization, 2019c). For the physical health challenges, participants reported musculoskeletal conditions, infant death, miscarriage, dehydration, dizziness, fatigue, headaches, malaria, diarrhea, cholera and vaginal infection. Indeed, the exposure of maternal workers to health risks at the workplace can have severe bearing on the health of children too (World Health Organization, 2009a; Ehiri, 2009; Kourtis et al., 2014). As in the research of Forastieri (2002), participants in this study mentioned some health challenges faced by their children as a result of their presence at the marketplace.

Of all the physical health challenges the women reported, musculoskeletal conditions/bodily pains were the most mentioned. They complained about severe bodily pains- such as neck pain, back pain, waist pain, and abdominal pain- and pointed out their excessive workloads (lifting and carrying heavy items) as the related cause. Neck pain was mostly experienced by traders who carried items on their heads to sell while nursing mothers reported back pain from long hours of carrying their babies. Abdominal and waist pains were mentioned by most pregnant traders. However, some traders experienced more than one bodily pain due to the several strenuous activities they engaged in. In addition, one participant talked about being diagnosed with osteoarthritis

due to repetitive movements and heavy workloads she performed. Despite their persistent body pains, the maternal traders worked tirelessly to provide for their family needs. Aside from the strenuous activities they performed at the workplace, they revealed that their double work duties as mothers and market traders were overwhelming and that this usually resulted in multiplying effect of various health challenges including musculoskeletal diseases, fatigue and dizziness - findings that parallel other research in this area (Dennerstein et al., 1999, Levin et al., 1999; Avotri & Walters 1999).

In marketplaces, women, including pregnant and nursing mothers engage in work activities with exposures to strenuous physical labor, chemicals, noise, communicable agents and stress (World Health Organization, 2004a; Alfers, 2009; Foroughipour et al., 2013; Idowu et al., 2014). These activities pose risks to their health as well as their developing fetuses and their babies (Feinberg & Kelley, 1998). It could also be argued that women who engage in multiple social roles (occupational and maternal) do not experience multiplying health challenges or reduced life fulfillment in comparison with women who engage in only occupational roles (Sumra & Schillaci, 2015; Avrech Bar & Jarus, 2015). Although it may be case, it should also be realized that the benefits workers gain from employment is dependent not on the work they perform alone but on other factors such as the workload, the type of occupation, income, work environment, work hours, and workers' conditions (Kishor & Neitzel, 1996). For example, workers in an unsanitary work environment are more likely to face health challenges such as cholera than workers in a clean environment.



Many women work while they are pregnant or breastfeeding. One participant gave an account of a bleeding incident which later resulted in a miscarriage. She was unsure of the cause but linked the complication to her excessive workload; specifically the lifting and carrying of heavy loads. In pregnant women, the harm of physical activity hasn't been recognized to exclusively cause miscarriages and other pregnancy complications such as premature delivery or intrauterine growth restriction (Poursafa & Kelishadi, 2011). Nonetheless, studies point out a possible connection between handling heavy workloads during pregnancy and an increased risk of several pregnancy complications (Mozurkewich, Luke, Avni, & Wolf, 2000; Haelterman, Marcoux, Croteau, & Dramaix, 2007; Bonzini, Coggon, & Palmer, 2007; Lee, 2012). "Excessive physical exertion during pregnancy has physiological effects, including increased abdominal pressure and changes in uterine blood flow, hormone balance, and nutritional status, all of which influence survival and growth of the fetus" (Lee, 2012). As such, pregnant workers who handle heavy loads are at a risk of pregnancy complications including spontaneous abortion and premature delivery (Bonzini et al., 2007; Lee, 2012).

Further, the effects of extreme climate/weather conditions on health can never be overestimated. The effects of climate change consists of "warming temperatures, changes in precipitation, increases in the frequency or intensity of some extreme weather events, and rising sea levels" (Environmental Protection Agency, 2017). These impacts threaten our health by affecting food, air, and the weather. Everyone gets affected by weather/climate effects at some point in time but the severity of the health risks is dependent on the ability of public health and safety systems to address the threats, as well

as factors such as an individual's behavior, occupation, age, gender, living environment, economic status, and others (U.S. Global Change Research Program, 2016; Environmental Protection Agency, 2017). In addition, persons in developing countries and certain populations, such as children, pregnant women, and older adults may be the most vulnerable to health risks globally (Balbus et al., 2016; Environmental Protection Agency, 2017). For example, pregnant women and children are more vulnerable to the health risks of climate changes and extreme weather conditions due to biological sensitivities, more opportunities for exposure, low adaptive capacity, or combinations of these factors (U.S. Global Change Research Program, 2016).

Countries such as Ghana, have warmer average temperatures (26°C) and that leads to hotter days and more frequent and longer heat waves Meteorological Agency, 2016). Participants, together with their babies suffered headaches, dehydration, and heat rash as a result of the high temperatures and the crowded market environment. Regardless of the fact that some participants were found in sheltered kiosks, they still complained of how the sun's heat penetrated through their aluminum roofing sheets and intensified heat. The participants mentioned that working in the hot weather either aggravated their headaches or gave them recurrent headaches. Mukamal et al. (2009) established in their research that higher temperatures and lower barometric pressure could cause severe headaches. Also, weather variations may cause imbalances in brain chemicals such as serotonin, which can prompt a migraine or may worsen a headache caused by other triggers (Levy et al., 2009; Swanson, 2018). A pregnant trader from the Madina market also narrated her struggle with dehydration even to the extent that after drinking lots of

water, she still feels thirsty. Generally, exposure to extreme heat can lead to dehydration, heat stroke, respiratory, and cerebrovascular disease; and in pregnant women frequent extreme heat can cause dehydration and kidney failure. Further, dehydration in pregnant women releases labor-inducing hormones and this could affect the growth of the unborn baby (Environmental Protection Agency, 2016; Public Health Institute, 2016b).

Another health challenge the participants (and children) encountered was heat rash. Heat rash is a skin condition that often affects children and adults in hot, humid weather conditions. Heat rash can appear as blisters to deep red lumps with an itchy sensation superficial blisters that usually develop when skin pores become blocked and sweat can't escape. The participants described how itchy their skin felt especially during the day when the sun is high. The babies also suffered severe heat rash coupled with constant crying and fever due to the hot weather. An unexpected incident of an infant death (6 months) was also reported by a nursing mother. According to the medical diagnosis, the baby suffered severe fever and that lead to his death. Although the cause of the fever was unknown, newborns are particularly sensitive to extreme environmental temperatures because of their limited capacity to regulate body temperature. This could make their body temperatures fluctuate depending on the outside temperature to either cause hypothermia or hyperthermia in babies (Public Health Institute, 2016a). Also, “climate-related exposures may lead to adverse pregnancy and newborn health outcomes, including spontaneous abortion, low birth weight, preterm birth, increased neonatal death, dehydration and associated renal failure, malnutrition, diarrhea, and respiratory disease” (Public Health Institute, 2016b).

Respiratory illnesses such as asthma, rhino sinusitis, and respiratory tract infection were not mentioned as part of the health challenges despite the knowledge that these diseases are known to be promoted or aggravated by extreme heat, dust or smell (Ayres et al., 2009; D'Amato, Cecchi, D'Amato, & Annesi-Maesano, 2014).

Forgetfulness, use of over the counter medicines/traditional medicine, the lack of knowledge on the effect of heat/dust or smell on respiratory disease could all be reasons why research participants did not discuss respiratory diseases as part of their health challenges. Aside from the high temperatures, participants also suffered effects of flooding when it rained in the market. Flooding has been a continuous problem in Accra. The area is prone to various natural disasters such as flooding and disease outbreaks due to choked gutters and poor settlement layouts (UN-Habitat, 2016). Flooding at the marketplaces created challenges for food distribution as waterways overflowed and made roads inaccessible. Also, floods have resulted in death by drowning and the loss of goods and properties of both traders and other workers.

Malaria, diarrhea, cholera and vaginal infection were also part of the health challenges the participants experienced due to the unsanitary work environment and to some extent the warm temperature. In June 2014, a cholera outbreak was reported in Ghana. Cholera is an acute diarrheal infection caused by ingestion of food or water that is contaminated with bacterium *Vibrio cholera*. It affects both children and adults and can kill within hours if left untreated whilst diarrhea refers to the passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual).

Diarrhea is usually a symptom of an infection in the intestinal tract, which can be caused by variety of bacterial, viral and parasitic organisms.

In 2014, cholera was widespread in Ghana with “a total of 28,975 cases with 243 deaths were reported from 130 out of the 216 districts in all 10 regions” (World Health Organization, 2015b). The Greater Accra region is the region with the highest reported cases of cholera due to the sanitary issues. The cholera outbreak of 2014 began in marketplaces after the heavy rains in June of that year. The enduring outbreak of diseases such as cholera, diarrhea, typhoid, malaria and other perilous diseases in marketplaces provide evidence on how the poor sanitation is a major health risk to the traders. Aside from unsanitary conditions, climate change and weather conditions are known to increase the threat and severity of vector-borne diseases such as malaria and diarrhea. Vector-borne diseases are illnesses that are spread by disease vectors, which include mosquitoes, ticks, and fleas. These vectors have contagious pathogens, such as viruses, bacteria, and protozoa. “Changes in temperature, precipitation, and extreme events increases the geographic range of diseases spread by vectors and can lead to illnesses occurring earlier in the year” (Environmental Protection Agency, 2017). For example, extreme temperatures—hot or warm temperatures—could increase the location and number of mosquitoes that transmit malaria.

However, the spread of climate-sensitive diseases depends on both climate and non-climate factors such as level of knowledge on disease, socioeconomic and cultural conditions, access to health care, pest control, and human responses to disease risk. Interestingly, one nursing mother from Madina market mentioned that she thought

sleeping in a mosquito net could prevent her from acquiring malaria whether or not she gets mosquito bites at work. The lack of appropriate knowledge on malaria and how it is spread explains why she constantly acquired the disease. Again, the general morbidity and mortality patterns in Ghana show the linkage between poverty, gender disparities, and health. For example, the disease outbreaks (malaria, diarrhea, and pneumonia) affect more females than males and these diseases could be vividly reduced by low-cost and effective preventive measures such as sanitation and health education (Ghana Health Service, 2004). Also, the equity gaps existing in access to health and nutrition services badly affects the poor (mostly women) and constrains their access to good medical care (Ghana Health Service, 2011). Finally, some participants complained of having vaginal infection as a result of the unsanitary toilet facilities. It is believed that irritants (such as extreme heat from public toilets) and other bacteria existing around the toilet pots cause these vaginal infections.

According to the World Health Organization (2014), mental health refers to a “state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community”. This definition also encompasses the concept of psychosocial health by emphasizing not only an individual’s ability to cope with the normal stresses of life but to also contribute to her or his society. Workers suffering psychosocial health challenges are likely to be unhealthy, less productive and feel less safe at work. Hence, the maintenance and advancement of workers’ health doesn’t only

focus on the absence of disease but the full achievement of their physical, mental, and social well-being.

Globally, psychosocial risks have been indicated as one major challenge to workers' health and the healthiness of their organizations (European Agency for Safety and Health at Work, 2007; World Health Organization, 2004b). Also, "mental health problems and other stress-related disorders are recognized to be among the leading causes of early retirement from work, high absence rates, overall health impairment, and low organizational productivity" (World Health Organization, 2019c). Workers who struggle with psychosocial risks at work may also experience major psychosocial health issues including high blood pressure, heart diseases, family problems, depression and anxiety. However, gender is a critical determinant of psychosocial health illnesses as it influences the control that both men and women have over the causes of their health such as access to resources, cultural beliefs and social status. For instance, the widespread violation of women's rights, including their reproductive and productive rights, has contributed directly to the growing burden of disability and diseases in women. Also, the experiences of many women regarding "self-worth, competence, autonomy, adequate income and a sense of physical, sexual and psychological safety and security," which are so vital to good health, are systematically denied (World Health Organization, 2019a).

Below are some facts presented by the World Health Organization (2019a), to show women's susceptibility to psychosocial health issues.

- Depressive disorders account for close to 41.9% of the disability from neuropsychiatric disorders among women compared to 29.3% among men.

- Leading mental health problems of the older adults are depression, organic brain syndromes and dementias. The majority of those suffering from these conditions are women.
- An estimated 80% of 50 million people affected by violent conflicts, civil wars, disasters, and displacement are women and children.
- Lifetime prevalence rate of violence against women ranges from 16% to 50% from country-to-country worldwide.
- At least one in five women will suffer rape or attempted rape in their lifetime.

Aside from the critical role gender plays in determining a person's psychosocial health, expectant and new mothers' have been found to have very high susceptibility to health risks because of the hormonal and psychological changes that occur during pregnancy and childbirth (European Commission, 2000). This group of women are distinctively affected by health stresses or challenges either in the household or at the workplace. Globally, about 10% of pregnant women and 13% of women new mothers experience mental health issues such as anxiety and depression. In developing countries the rate is even higher as 15.6% expectant and 19.8% new mothers struggle with various mental and social issues (World Health Organization, 2019b). Their mental and social issues may due to factors such as feelings of inadequacy, financial worries, or marital problems. In most cases, maternal health issues also affect children's growth and development negatively.



The participants discussed the psychosocial health challenges they faced because of their occupational roles. Overall, the issue of stress stood out in most of the conversations. Work-related stress occurs when workers are presented with work demands and pressures that often exceed their abilities to cope. Workers who are stressed often have poor physical, mental and social health (World Health Organization, 2004b). Participants reported feelings of worry, anxiety and frustration due to the exhausting workloads, illnesses and poor environmental conditions they endured. Another critical issue that increased their emotional and mental problems is the lack of control over their work (both at home and the market) and work environment. Participants complained about how they felt pressured to work (sometimes disregarding their health) in order to support their families. Also, the lack of education limited their choice of work; thereby constraining them to work in the market.

Over the past decade, the number of women living in poverty has increased disproportionately to the number of men, particularly in developing countries (United Nations Women, 1995). In Ghana, the face of poverty is a woman (Abeliwine, 2011). Ghanaian women's poverty is directly linked to the different forms of cultural discrimination, customary practices and institutional barriers that have denied and still deny women access to economic opportunities and resources, access to education and support services including credit, land ownership and inheritance (Awumbila, 2006; Sossou, 2006). Women in Ghana have lower social status, earn lower incomes, end up in forced sexual exploitation, and suffer an uneven burden of housework at home as compared to their male counterparts (Awumbila, 2006). The poverty trend amongst the

market traders lead to constant worry, anxiety, fear, depression and sleeplessness. Some participants complained of constant anxiety due to low sales/returns from their business. They expressed displeasure towards the current terrain of economic hardship in their country which they believed had caused the decline in their business. Also, a single mother mentioned how the absence of adequate security (shelter and supporting social system) led to her constant feeling of fear and anxiety. Similar to the research by Avotri and Walters (1999), a significant number of the women in this study suffered psychosocial health problems due to their strenuous work responsibilities.

Attaining personal health also depends on the social structures present in a person's life. For instance, the maintenance of strong social relationships and engaging in other social activities have been linked to positive health and also increased longevity. A study by Harris and Thoresen (2005) found that frequent volunteering was related with reduced risk of dying in older persons when compared with similar groups of older persons who did not volunteer, regardless of physical health status, thus emphasizing the benefits of having social structures or relations on human health. Further, social interaction and engagement have been found to be significantly related to long-term mental well-being, fewer depressive signs, and life satisfaction (Schwingel, Niti, Tang, & Ng, 2009).

In the case of the research participants, their heavy workloads led to high family conflicts and low social interactions by interfering with their abilities to form and maintain their social relationships. Social issues such as family misunderstandings, self-blaming and loss of relationships with important others, including family, friends and

acquaintances were mentioned by the research participants. Higher workloads were found to be associated with higher levels of family conflicts and the negative effects were usually severe because their expectations at work interfered with the worker's ability to fulfill demands at home (Ilies et al., 2007). The effects of excessive workload on social relations can never be overstated. As workers decide to prioritize their jobs while also prioritizing life outside of work, lots of problems develop. The issues workers face at work could bleed into their home lives and vice versa, thus making the issues inseparable and difficult to deal with. In a study by Rajan (2018), heavy workload was found to be a reason for stress and it in turn affected the health, family and social life of sanitary workers. Therefore it is advisable that when high workloads cannot be avoided, workers should be given more social support to avoid further complications in their health and lives.

The results of this study indicates that the physical, mental and social health of maternal market traders is negatively affected as a result of the work and work environment – findings that parallel the results of many other researchers (Avotri & Walters, 1999; Mozurkewich et al., 2000; Bonzini et al., 2007; Haelterman et al., 2007; Alfors, 2009; Lee, 2012). Therefore, there is a need for immediate health and safety measures to be taken in order to protect the health of these maternal market traders. However as rightly indicated by the International Labor Organization (2011b), improving maternal health should extend beyond the provision of health services and family planning methods to protecting the health of mothers at the workplace and ensuring their financial safety during pregnancy and after childbirth.

### Limitations

The first challenge of this study was that the term ‘market traders’ was broad and difficult to conceptualize. The reason being that, amongst the market traders, there were street vendors, those who sold in sheltered areas, those who sold in the open-air, and seasonal traders. Hence, it was a challenge identifying the specific group of maternal market traders to focus on. It is also likely for each group of market traders to face distinct occupational health challenges as a result of the differences that lie in their activities.

Further, some procedural problems were encountered in identifying the potential participants. First, the process of observing and approaching potential participants was quite intimidating. Some of the participants felt threatened in the way they were approached and talked to because they rarely engage in such “research discussions” and also, some participants mistook my identity as a researcher to be a government official or an investigative journalist with ulterior motives for their actions.

Finally, even though I am fluent in both English and Twi (the most commonly spoken language of the market), I encountered various language barriers. There was the extra burden of transcribing and translating the interview questions and recruitment materials first from English to Twi and after the interviews, from Twi to English. In both the transcription and translating processes, I encountered semantic and normative equivalence where some of the research terms used in English did not have equivalent words in Twi and vice versa. This slowed down the data analysis section.

### Future Directions

During the study, it was found that the term 'market traders' was very broad and so it became difficult to conceptualize. This is because, amongst the market traders, there were street vendors, those who sold in sheltered areas, those who sold in the open-air and seasonal traders. It is, therefore, necessary for future research to state emphatically the type of market traders they hope to study. As an example, a definite group could be "maternal street vending traders".

Also, to avoid creating threatening atmospheres on interview days, it will be important for future researchers to visit the market a day before the main interview to talk to possible participants about the research in order for them to familiarize with both the research and the researcher. As a backup, future researchers could also contact the market queen (the female leader elected by the traders to head the affairs of the market) in each market to notify her of their presence and mission. This can go a long way towards making the researcher's intentions known and taking away any suspicions the market traders may have had.

In addition, demographics such as age, educational background and ethnicity should be studied in the future to show the differences (if any) in the occupational health challenges faced by participants based on either their age, educational background or income level. Furthermore, researchers might conduct a longitudinal research to study either the same group of market traders or the market environment itself and how certain occupational health hazards or diseases may change at different points in time and explore some of the reasons why these shifts take place.

Future research should employ professional interpreters and translators to mediate the language barrier between researchers and participants. This will help address the language barriers involved in cross-language qualitative research. However, researchers should take into consideration the credibility of such bilingual individuals as the choice of bilingual workers can affect the ultimate success or failure of a research project.

Finally, in order not to appear biased against the local government officials, future researchers should include them in their study to record their views/responses on the sanitary issues persisting in the market and the various allegations leveled against them by the market traders.

## CHAPTER 6

### CONCLUSION

Some years back, the economic and social status of women was closely linked to that of their husbands but currently, there has been a huge improvement in the economic, political, and social status of women, of which employment is an integral part (Banerjee, 2009). Women's employment is used as a measure of their prestige/status in the society. When compared to a woman who's unemployed, an employed woman is able to function in a domain outside the home, has direct access and control over financial resources and is generally more enlightened about the world outside the home (Kishor & Neitzel, 1996). However, the beneficial effects of employment on the lives of women are contingent on several factors such as the nature of work, the work environment, income earned and time involved, as well as the social and cultural norms that either fight or approve of women's work outside the home. Furthermore, in societies where women do not receive any adjustments or assistance in their household work, outside employment creates a doubling impact of workloads on their lives. As such, understanding the relation between women's work and their lives' status also calls for the examination of other factors influencing it.

In Ghana, market traders (the dominant group of informal workers) engage in low quality jobs and work in hazardous environments. Their work is not protected by the government's legal and welfare systems or any occupational health and safety laws and regulations (Manothum & Rukikanpanich, 2010). As a result, marketplaces where trading occurs are located within and near slums and the health of market traders is constantly

declining. Environmental factors are among the primary causes of health discrepancies worldwide. These determinants involve the workplace, housing, sanitation, air quality, and others. “In the developing world, social, economic, and environmental risks combine to create a triple burden for mothers and children. Poverty, poor nutrition, environmental pressures, and displacement caused by such forces as climate change or conflict precipitate more exposure to environmental health threats” (Ehiri, 2009).

Knowledge concerning the health effects of women’s occupation, especially in low-income countries is extremely sparse due to the lack of structured research and the difficulties involved in setting up databases (World Health Organization, 2006). As such, the health consequences of women’s productive labor often goes unnoticed even in the face of visible health risks. As an example, the measures implemented to support women’s health in Ghana mostly cover their reproductive health concerns and very little focus in terms of research and safety policies is given to women’s occupational health and safety issues (Avotri & Walters, 2001; Wrigley-Asante, 2013). Though it is evident that market traders experience health challenges due to the nature of their work, very little research has been done to investigate their health challenges. In addition, no research has been conducted to investigate the occupational health challenges of maternal market traders (probably the most vulnerable group of workers) in the informal economy.

This research, being the first of its kind to investigate the occupational health challenges of this group, has shown that maternal market traders in Accra face various occupational health and safety hazards which have a significant physical and psychological consequences on their health and that of their babies. The study results



therefore suggest the need for the implementation of occupational safety measures to protect and improve the health of maternal market traders; as occupational health services can be effective in the prevention of diseases and working conditions (World Health Organization, 2016).

#### Occupational Health and Safety Measures Proposed By Research Participants

##### **Infrastructure Development.**

The Ghana Shared Growth and Development Agenda 2014-2017(GSGDI) underlines the need to develop infrastructure such the transport, water and sanitation as infrastructure development also supports economic and social development (Ghana's Ministry of Employment and Labor Relations, 2014). However, this policy appears to be far from successful regarding the current state of infrastructure in the country. The majority of the research participants mentioned infrastructure development as a safety measure that could improve their health. Improvements might include:

- The provision of health centers near markets: Available and accessible high quality health-care services, affordable to all, are fundamental determinants of maternal health. Hence, health care centers or several smaller establishments should be arranged within market premises to provide free medical care, including prenatal, childbirth and postnatal care regularly. Also, health workers should be engaged to regularly visit and check on the wellbeing of the pregnant and breastfeeding traders (and their babies).
- Renovated sanitary facilities such as toilets and urinals: Public toilets and urinals should be renovated and new ones built for maternal hygiene and comfort. These

sanitary facilities must be regularly cleaned and disinfected to keep clean and sanitary. Also, rest spaces should be provided at markets for traders to rest when fatigued to support maternal and child health. In all, maternal market traders should be allowed to use these public facilities at a reduced or no cost.

- Subsidized daycare centers in market areas: Establish daycare centers near marketplaces to provide valuable support and cater for the children while mothers are at work. This will help promote the cognitive, emotional and social development of children as well as prepare them for future schooling.
- Provision of enough and subsidized stalls: With climate change in Ghana, the occurrence, time, severity and place of weather and climate phenomena such as rising temperatures, heavy rains, droughts, and other kinds of severe weather conditions are constantly altering. For example, the average annual temperature has increased by 1°C in the last 30 years while there is a projected increase in average annual temperatures between 1.4–5.8°C by 2080, with the greatest increases in the northern part of Ghana (United States Agency for International Development, 2017). Hot temperatures have also been linked to health effects including maternal and child health complications. As such, it is highly important for maternal market traders to be provided with well-sheltered stalls with good ventilation in markets to support their health and that of their children.

### **Incentives or Specialized Financial Structures.**

In relation to the general poverty the participants faced, they recommended the establishment of financial and non-financial assistance such as credits, interest-free loans

and other business advisory and extension services from the government to informal operators to facilitate the growth and expansion of their businesses.

### **Good Social Support Structures.**

Given the growing role of women in the informal economy, specific measures should be designed to support women's social life. Stakeholders such as traders' families, friends, coworkers and others should be present to protect traders from the effects of stress by loving and assisting them in their work.

### Occupational Health and Safety Strategies for Maternal Market Traders

The informal economy plays an important role in economic progress by generating employment opportunities for workers around the world-particularly in developing countries (International Labor Organization, 2002). Since the informal sector consists mainly of independent self-employed workers, they have no permanent employment status or any occupational health and safety laws protecting them (Manothum & Rukikanpanich, 2010). For instance, in Ghana, “the informal sector poses unique problems, as employment conditions remain unmonitored, mainly due to inadequate capacity and logistical problems of the regulatory institutions as well as the unstructured nature of the enterprise activities” (Ghana's Ministry of Employment and Labor Relations, 2014). Ghana therefore struggles with the dual challenge of hazardous working environment and difficulty to enforce Occupational Safety and Health (OSH) standards in this sector even though “every person has the right to work under satisfactory, safe and healthy conditions, and to receive equal pay for equal work without discrimination of any kind” (Government of Ghana, 1992).

### **An Enabling Legal and Regulatory Framework to Protect Maternal Health.**

The National Employment Policy in Ghana should be properly reviewed and financed, taking into consideration programs and projects which will develop the quality of work and lives maternal traders at the informal sector. Workers in the informal economy are most in need of social protection because of the higher likelihood of their being exposed to serious occupational safety and health hazards. For many informal workers the workplace is the home, so there is a greater possibility for their families and even their neighbors to be exposed to safety and health hazards. Also, considering the hazardous and poor nature of work in the informal economy, there is the need to enforce employment protection regulations where necessary and introduce new legislation and standards to protect the health of working mothers during pregnancy, after childbirth and while breastfeeding. For example;

- There should be laws and policies that set minimum requirements for the provision of health care during pregnancy and after childbirth, as well as cash maternity benefits replacing lost income.
- There should also be feasible laws and regulations on insured earnings provided from social insurance or public funds and adequate cash benefits out of social assistance funds for maternal market traders.
- Laws to expand social protection to cover traders who are affected by disasters such as floods and fire outbreaks and also develop learning strategies to help traders cope with these socio-economic shocks before they are occur.

- A national policy aimed at promoting equality of opportunity and eliminating all forms of discrimination in employment and occupation based on gender, race, sex, religion, political opinion or social origin (International Labor Organization, 2002).

Most of the time, such laws and regulations fail to ensure the employee/worker's responsibility towards their own safety. For example, through exhibiting hygienic behaviors and complying with safety and health measures. Hence, there should be "strict enforcement of decent work standards in terms of opportunities for productive work, income, security at the workplace, social protection for workers and their families, better prospects for personal development and social integration, freedoms to form unions, and equality of opportunity for all" (Ghana's Ministry of Employment and Labor Relations, 2014). Lastly, to enhance government and labor policies in Ghana, authorities in charge, such as the Occupational Safety and Health Institution and the National Labor Commission, should strengthen their capacity by training and retraining their employees to acquire new skills and knowledge and also by forming alliance with other international labor organizations for technical and financial support. This will also help the institutions in charge to benefit from the extensive and rich resources of these international labor organizations in the development and execution of comprehensive national employment policies.

### **Literacy and Education on Occupational Health and Safety.**

Maternal market traders (and informal workers as a body) should be taken through legal literacy programs to make them aware of their rights and entitlements as

informal workers and entrepreneurs to enable them seek redress in court when these rights are violated. More specifically, working mothers should be informed of their rights in connection with health, maternity and child care. For instance, they should be informed about the need and right to have sufficient rest in the last trimester of pregnancy and during breastfeeding with payment or other benefits (World Health Organization, 2001). Traders should also be made aware that when their enterprises/trade unions are not legally registered and regulated, neither are they protected by the labor laws. So in order for their rights as workers to be observed, they should register their enterprises and join registered trade unions.

Further, there is the need for health and safety campaigns on better health and safety conditions in market traders' places of work to be organized. The campaigns will help in raising awareness on the importance of ensuring safe workplaces and complying with safety regulations. They will also help build a wider and stronger network of stakeholders to support the promotion of safer workplaces/markets.

### **Promoting Empowerment and Training Activities.**

Effective empowerment and equal representation of the vulnerable and the marginalized (for example, maternal workers) in the employment policies will promote health, social justice and equity. Empowerment initiatives will also encourage both sexes to challenge gender discrimination. Focusing more on the working in the informal economy, there should be special assistance trainings on the 'development of women entrepreneurship' to help provide them with adequate institutional support and practical management skills. This will go a long way to improve their access to credits, remove

cultural/social barriers, and enable them become thriving business women and effective role models in society.

To cater to maternal market traders, training establishments should be more flexible. For example, trainings can be done by utilizing capacity building activities such as group discussions to help maternal traders learn and understand their unique health status and occupational health problems. This will help them to acquire positive attitudes and skills towards promoting safe working conditions. Thus the exchange of real life experiences during this process will help them to learn and assist each other in developing sustainable measures.

### **Better Perspective on Women's Occupational Health Issues.**

Globally, the quality of work in the informal economy is poor and often associated with high workloads, low income, low safety and health standards, as well as hazardous working conditions. In sub-Saharan Africa and South Asia, where the highest figures of maternal mortality are reported, “more than 80 percent of women workers are considered to be working in precarious and vulnerable conditions, mainly in the informal economy, lacking maternity protection at work” (International Labor Organization, 2015). Thus, improving maternal health is not simply a practical matter of providing better and more extensive maternity services but taking a better approach to understanding women's occupational health issues. In the past, global health policies mainly consisted of the provision and funding of medical care; now we acknowledge that while medical care can better prognosis, the cultural/social, economic, and environmental conditions in which people live are critical factors in determining human health.

Maternal market traders in Ghana face factors-social, cultural, political, religious and others- that restrict them in their choice of occupation and denies them their occupational rights. It is however fundamental to take into consideration (in the process of improving quality of jobs in the informal economy) the various the factors that restrict women in their daily lives and to also consider issues specific to them such as maternity protection and family support.

### **Environmental Monitoring Activities.**

The challenges to achieving good sanitation and low fire incidences in Ghana are numerous and related to other factors such as poor enforcement of sanitation and fire safety laws, increased rural-urban migration, low financing of occupational health policies, dilapidated sanitation and electrical infrastructure, lack of electrical maintenance, and sanitary workers (Baffoe, 2015). As such, the poor sanitation issues and fire outbreaks existing in the markets should transcend the blame game to focus more on continuously educating market traders on promoting good sanitation and preventing both domestic and other types of fires. Also, public officials and institutions should be held accountable for the role they play in ensuring a safe and sound market environment. Further, other effective methods of waste disposal such as recycling should be practiced to reduce the adverse effects of poor waste disposal on maternal and public health. In addition, redeveloping and regularizing market settlements and forming of community fire volunteers in marketplaces will help reduce fire incidences.

Moreover, regular environmental monitoring should be carried out regularly by experts to identify the problems which could affect the health of working mothers and



their babies in the market. All these recommendations are vital in promoting sanitation and reducing fire outbreaks; as the poor environmental issues existing in the markets are not only constrained by limitations in the implementation of environmental laws but also the apathetic behavior related to sanitary practices, poor urban planning, and the lack of effective monitoring of private sector contracts (Baffoe, 2015).

International organizations and developmental partnerships. The role of international organizations and appropriate partnerships is essential in promoting women's occupational health worldwide. Over the years, a lot of countries and organizations have benefited from the exchange of information and experiences on trade, education, health, and others. For example, the establishment of the Millennium Development Goals by the United Nations has created several opportunities (in education, public work, agriculture, finance and healthcare) for women and girls (in member countries) to lessen the effects of poverty and gender discrimination they face (United Nations, 2015). What is outstanding about most international organizations is how they work to “to achieve international cooperation in solving international problems of an economic, social, cultural, or humanitarian character, and in improving and encouraging respect for human rights and for fundamental freedom for all without distinction as to race, sex, language or religion” (International Labor Organization, 2011a).

In developing countries such as Ghana, women's occupational health receives very low priority due to the failure to realize occupational health as a need, insufficient resources, and gender-based discrimination affecting mainly women. Under such

circumstances, the occupational health of women workers is hardly given precedence. Many international and non-governmental organizations have interest in women's occupational health and safety and so, they provide medical, social, technical, and legal assistance to a variety of disciplines, countries and professions and social groups. Such occupational health services offer a wide safety network for their workers that maternal market traders in Ghana could benefit from. Ghana, is actively engaged in broader partnerships (with many international organizations such as the International Labor Organization and United Nations) on occupational safety and health. Ghana has benefited from wide-ranging assistance in terms of legal, financial and technical assistance from collaborating with such international bodies. However, the focus of such occupational health and safety partnerships are general and do not constitute a sole emphasis on women's occupational health and safety. Hence, this research will suggest some appropriate development bodies and international organizations focused on promoting solely women's occupational health.

### **Women's Environment and Development Organization.**

Women's Environment and Development Organization (WEDO) is an on-going global women's advocacy organization that promotes and protects human rights, gender equality and the integrity of the environment. The organization's mission is to ensure that women's rights, economic and environmental justice are at the heart of global and national policies. WEDO believes in strong and diverse partnerships in meeting its goals, so it partners with other women's organizations, environmental development organizations, governments and intergovernmental organizations including the United

Nations, to achieve its mission. Through the use of political action, such as campaigns, women are given the platforms to fight for their human rights and convey messages to their government. WEDO has organized several successful and healthy corporate campaigns as a way to help achieve women's rights and environmental justice. An example is WEDO's campaign for women's labor rights in Nike-contracted factories, in 2008. Since the early 90s, Nike has been pressured by WEDO activists and media about sweatshop conditions and labor rights violations in its supply chain, where women comprise 80-90 percent of workers.

Other commendable activities by WEDO include continuously improving women's lives by providing employment avenues and relief items to women during natural disasters. The organization not only works to empower women, but to also make sure the environment or climate in which they work is good enough to support their activities. Thus, WEDO contributes to global climate change sustainability efforts by educating women in the agricultural sector to engage in agricultural activities during the best growing seasons. WEDO works to protect women's employment by continuously making recommendations on safe and environmentally friendly jobs that women can be involved in (Women's Environment and Development Organization, 2018). Ghana could partner with WEDO to protect maternal market traders' occupational health by organizing campaigns on safe and healthy marketplaces and their occupational rights.

### **Catalyst.**

Catalyst is an international, membership-based nonprofit (formed in 1962) dedicated to increasing opportunities for women in business, mainly through the

pioneering research, practical tools and proven solutions to remove barriers for women at work and drive change. Catalyst provides an excellent source for research, reports, and news on workplace issues for women around the globe. Catalyst also works to promote the representation of woman at all levels of leadership because they believe that “progress for women is progress for everyone”. From time to time, they work to fight the gender gaps existing at women’s workplaces and offer leadership trainings to support women (Catalyst, 2019). Partnering with Catalyst will help expand research on maternal occupational health in Ghana and create awareness to attract other external support/assistance.

### **Women in Informal Employment: Globalizing & Organizing (WIEGO).**

WIEGO is an international network focused on supporting livelihoods for the working poor, especially women, in the informal economy by granting them equal economic opportunities and rights. Further, WIEGO creates change in the informal economy by building capacity among workers’ organizations, increasing workers knowledge base, and influencing local, national and international employment policies. So far, WIEGO has partnered with many individuals and local employment organizations to conduct research on occupational health and safety for informal workers in Ghana and other African countries. Market women’s associations or local workers unions in Ghana could partner with WIEGO to increase the voice of market traders.

WIEGO provides services to working poor women to increase their solidarity, organizational strength and their representation in policy-making processes and institutions. Also, partnering with WIEGO will help increase the collection of official

statistics and mainstream research on maternal market traders' occupational health issues. Finally, maternal market traders (and other market women) could receive social protection benefits in the form of legal recognition and insurance through their partnership with WIEGO.

A sustained improvement or change is not something that can occur immediately. Rather, it is a long-standing process which includes within it sub-processes, such as a better understanding of culture, social support systems, politics, and the functioning of the institutions themselves and engaging stakeholders at different levels (Alfers, 2009). So far, the study has identified both major health and safety risks faced by maternal market traders, as well as some of the major cultural and social barriers in extending safety measures to this occupational group. It, therefore, represents one of the primary steps in the process of institutional change - that of understanding what the real problems and barriers are. This information will hopefully be used for further studies to expand the conversation on promoting the occupational health and safety of maternal market traders (and other workers) in the informal economy.

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## APPENDIX A

## INTERVIEW QUESTIONS

- 1a.) Do you face any extra difficulties in your work because you're pregnant? If yes, please explain some of these difficulties (Applicable to pregnant women).
- b.) Do you face any extra difficulties in your work because of your baby? If yes, please explain some of these difficulties (Applicable to breastfeeding mothers).
- 2.) What are some of the unhealthy conditions that persist in your work environment?
- 3a.) Do you think these unhealthy conditions affect your health? If yes, please describe how it affects your health (Applicable to pregnant women).
- b.) Do you think these unhealthy conditions affects your health or that of your baby? If yes, please describe how it affects your health (Applicable to breastfeeding mothers).
- 4.) What are the health challenges (physical, mental and social) that you face because of the kind of work you do?
- 5a.) Are there any differences in the health challenges you face now as compared to when you were not pregnant? (Applicable to pregnant women).
- b.) Are there any differences in the health challenges you face now as compared to when you did not have a baby? (Applicable to breastfeeding mothers).
- 6.) Are there any traditional methods you use to keep yourself and the baby healthy?
- 7.) Do you have any suggestions on how your work conditions can be improved to protect your health?

## APPENDIX B

## INFORMED CONSENT/RECRUITMENT MATERIAL

Hello Good day,

My name is Joyceline Amoako, a graduate student at the University of Northern Iowa studying Women's and Gender Studies. My research interest is in Women's Health so I'm conducting a research on how the hard work you perform in the market affects your health. The study doesn't guarantee improvements in your health and working conditions. However, your responses will assist me to develop some good measures in my research paper that could be used improve your health and work conditions. Also, this research may attract the government and other organizations to start thinking of ways to improve your work conditions since the generalized information without identifiers will be reported to them. The results of the research will also be shared with the 'Research Community' to let other people know about your working conditions. In this study, I will be asking you questions about your work conditions and how they affect your health but you don't have to participate unless you want to. Please note that:

- 1.) You will not receive any monetary reward or incentive to participate in this study.
- 2.) The study should take about 20 to 30 minutes of your time but I will pause the interview if you want to attend to a buyer and continue when you're done.
- 3.) You will be at no risk and you have the right to refuse to participate at any point in time or answer any question I ask.
- 4.) Your personal identifiers will be kept confidential but your responses will be used in my research and shared with the government, researchers and some organizations.

- 5.) I want you to be aware that your responses will be tape recorded in order to allow for later transcription and will be deleted when I'm through.
- 6.) If you understand the purpose of the study and you understand that you can decide not to participate with no penalties, please express your oral consent to participate.

## APPENDIX C

## GLOSSARY

**Formal Economy-** Formal sector enterprises comprise corporations (including quasi-corporate enterprises, non-profit institutions, and unincorporated enterprises) owned by government units, and the private unincorporated enterprises producing goods or services for sale or barter which are not part of the informal sector (Husmanns, 2003).

**Health-** Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (World Health Organization, 1948).

**Informal Economy-** The informal economy is characterized by units engaged in the production of goods or services with the primary objective of generating employment and incomes for the persons concerned. These units typically operate at a low level of organization, with little or no division between labor and capital as factors of production are on a small scale. Labor relations - where they exist - are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees. Operationally, they form part of the household sector as household enterprises or, equivalently, unincorporated enterprises owned by households (International Labor Organization, 1993).

**Maternal-** Maternal is a term that relates to women especially during pregnancy, childbirth and the postpartum period.

**Maternal health-** The health of women during pregnancy, childbirth and the postpartum period (World Health Organization, 2006).

**Market Traders-** Individuals involved in the selling of general merchandise including textiles, food items, second-hand clothing and others in market areas in Accra, Ghana.

**Market Production** - A portion of the goods or services produced by the informal enterprise that are sold or bartered in market transactions (Heintz & Valodia, 2008).

**Occupational Health-** Occupational health deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards. The health of the workers has several determinants, including risk factors at the workplace leading to cancers, accidents, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases, stress-related disorders and communicable diseases and others (World Health Organization, 2018b).

**Open-air market-** A public marketplace where food and merchandise are sold.

**Psychosocial Health-** A multidimensional term that comprises the mental, social, emotional, and spiritual well-being of an individual.